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ORIGINAL COMMUNICATIONS.

NOTES OF EXPERIMENTS ON THE EFFECTS OF WOORARA INTRODUCED INTO THE STOMACH.

By DANIEL BRAINARD, M.D., Professor of Surgery in the College at Chicago, Illinois.

It is generally believed, that certain poisons, readily absorbed, and quickly fatal when applied to recent wounds, are entirely innocuous when taken into the stomach. The venom of serpents is referred to as the type of this class, and the South American poison, *curara*, *woorara*, etc., is in this respect ranked with it.

This belief, universal, it is said, in South America, seems to be founded on the fact, that bites of serpents and wounds from poisoned arrows, have been treated by sucking, without injury; and that game killed by poisoned weapons is eaten without ill effects; but in recent times it has received a confirmation, from the views of Messrs. Bernard and Pelouze, sanctioned by the Academy of Sciences, which has caused it to be regarded as one of the established facts of science; certain physiological doctrines and theories of the action of medicinal substances even have been built upon it. Hence its importance.

It will be perceived, on a moment's reflection, that this supposed fact is contrary to all analogies in physiology.

That any substance whatever should be absorbed uniformly and quickly from wounds, and cause death, and be in solution entirely incapable of being taken up by the gastro-intestinal mucous membrane, implies in this latter tissue a power of choosing and of rejecting, which modern researches have demonstrated it not to possess.

Facts also exist, unnoticed for the most part, militating strongly against this belief. Fontana found that the venom of the viper, when applied to the eyes of pigeons, caused the lids to swell so as to close them.* This led him to doubt its entire want of action when applied to mucous surfaces. The following is his description of his experiment to determine this question:

"Chance having presented me a great number of vipers, large and vigorous, I was unwilling to let the opportunity pass of deciding, for the benefit of posterity, so important a point of natural history." "I cut the heads off eight vipers, and expressed their venom, which was received in a small spoon, of which there may have been thirty drops and more. I introduced the whole of it within the beak and esophagus of a pigeon which had fasted for eight hours. In less than a minute it appeared much weakened; two minutes after it began to vacillate, fell at length upon its side, with a sort of convulsions, and in six minutes was dead. The beak, the esophagus, and the crop, even to the gullet, were inflamed and livid, and the blood appeared blacker than ordinary. These parts were so much discolored, that they appeared to approach a state of mortification and gangrene."†

It would, no doubt, have surprised the laborious and accurate Fontana, whose discoveries many recent observers have often reproduced, without in the least being aware of it, if he could have foreseen that his authority would be invoked, as it is in some recent works of great general accuracy, in support of the other side of this question, which he flattered himself to be settling for posterity.‡

* *Traite du Venin de la Vipere, etc.* Florence, 1781. Vol. 2, page 307, Supplement.

† *Vide op. cit.*

‡ *Ib.* page 90.

With the South American poison of the Amazon, the *Ticunas*, the experiments of Fontana were far more numerous and conclusive.

"I made a pigeon swallow six grains of this poison, and it died in twenty-five minutes. I repeated this experiment on two other pigeons, and they both died in thirty minutes."* These experiments were repeated on six rabbits, three Guinea pigs, and two pigeons, with the same results. Fontana adds, "I have observed in general, in making the above experiments, that the animals died with more difficulty, or were unaffected, if the stomach was full when the poison was swallowed," and concluded as follows: "I deduce as an established fact (*verite de fait*) that the American poison taken internally is a poison, but that a sensible quantity of it is required to kill even a small animal."

Four, and even six grains, were found by Fontana to have little or no effect when swallowed by rabbits.

M. Vulpian found a concentrated solution of curara applied upon the back of a frog, caused death in four or five hours.†

In 1854, while ignorant of the above views, I formed and published the opinion that curara is absorbed from the stomach of living animals. I introduced five grains of it dissolved in two drachms of distilled water into the stomach of a pigeon which had been fasting for twenty-fours. The bird remained twenty-four hours longer without food or drink. I then killed it; no fluid was found in the intestinal canal. The whole length of this was carefully washed with one drachm of distilled water, and this injected under the skin of another pigeon. No effect was produced. This experiment was repeated on two other birds with the same results. As the quantity employed was sufficient to kill twenty-five pigeons in five minutes when injected under the skin, it is difficult to avoid the conclusion that it is absorbed.‡

* See Berard's Physiology, vol. 2, Art. Absorption.

† Gazette Medicale for 1858, p. 638.

‡ Essay on a New Method of Treating Serpent Bites and other Poisoned Wounds. Chicago, 1854. P. 17.

These experiments, while they demonstrated to my satisfaction the fact of absorption, misled me entirely as to the perfect inactivity of the poison swallowed in large quantity.

1858. I injected six grains of curara dissolved in two drachms of water into the stomach of a rat. In twenty-five minutes he began to be affected, and died in forty-five minutes. This experiment was repeated upon two other rats with the same effect. In both the stomach was found distended with air, and the right side of the heart with black blood.

In these experiments, I took especial pains to prevent any of the solution from entering the larynx, as it is well known that the bronchial mucous surface absorbs much more rapidly than does the gastro-intestinal, and I withhold several experiments on rats and Guinea pigs, because I could not be sure that a minute portion of the solution had not entered the air passages. While feeling sure, then, that the solution of woorara is absorbed from the gastro-intestinal mucous membrane of birds and rats, with sufficient rapidity to cause death quickly, I have not found the same to be the case with rabbits, in which I have injected as much as thirty grains in solution, without giving rise to severe effects.

This insusceptibility of the stomach of certain classes of animals to the action of poisons is a fact well known, and depends upon the absorbing power of the tissue. The absorbing power depends upon the thickness, vascularity and density of the part, and the rapidity of the circulation. The bronchial mucous membrane is fine, and very vascular, and therefore absorbs all poisons, including woorara, rapidly. The coats of the blood-vessels also absorb quickly. Both these tissues absorb much more rapidly than the stomach, which, being covered with mucus, takes up most solutions more slowly.

The stomach of the *carnivora* absorbs more rapidly than the first stomach of the ruminants, or the crop of birds, so that it often happens that these animals take noxious substances with the food with impunity. An example of this, often cited, is that of the goat eating the cicuta without injury.

The skin absorbs more slowly than the mucous membrane of the stomach, being covered with dry epithelium. The quality

of the solution also has an effect upon the capacity of absorption.

All that can be inferred from the experiments of Bernard is, that in dead animal membranes absorption is very slow. Experiments on dead membranes authorize no conclusion in regard to the living, the activity of the imbibing power being much greater in these latter.

This doctrine, that there are certain substances in solution which exert no great cauterizing or chemical action on the stomach, which are not absorbed in the least degree by it, but which are readily taken up by other membranes, is a retrograde step in physiology, and ought to be scrutinized before being adopted. Orfila, in the last edition of his *Treatise on Toxicology*, seems to adopt it. Taylor, who, in the first edition of his work on poisons (1848), stated that woorara, in a large dose, is a poison for all animals, has, in the recent edition of the same work, given the views of Bernard without comment.

Carpenter, and other physiological writers also adopt it. Under these circumstances, there seems little use in combating an error so deeply rooted; but this consideration should not prevent us from adhering to and promulgating what we deem the true doctrine of absorption.

Further experiments are required to determine many facts in regard to absorption. Does the membrane by which a substance may be absorbed exert an influence over its action afterwards, on the fluids or solids of the economy?

The nature of the active principle of woorara cannot be considered as entirely determined. Boussingault in 1827, made an analysis of it, in which he detected an uncrystallizable substance, called curarina. Subsequent examinations seem to have confirmed the result of his analysis. Pereira, and nearly all the English authorities, state that *strychnos toxifera* yields the base of it; but Taylor, in the recent edition of his work, asserts that the plant from which it is prepared, is the *cocculus Amazonum*, and does not belong to the genus *strychnos*.

In my "Essay on a New Method of Treating Serpent Bite," etc., I expressed the opinion that the woorara acts in the same manner as the serpent venom, and is probably identical with

it. More numerous and careful observations, while they have confirmed my views of the similarity of the mode of action of these two poisons, have also disclosed differences which seem to forbid the positive conclusion that they are, *in every respect*, identical. Without dwelling upon these differences at length, it may be sufficient to state, that the woorara never produces the dark discoloration in wounds which is so constant and characteristic an effect of serpent bite.

The facts and experiments herein adduced seem to justify the following conclusion :

1. Woorara (curara), contrary to the received opinion, is absorbed from the stomach of birds, etc., often, under favorable circumstances, with sufficient rapidity to cause death.

ARTICLE II.

CASES ILLUSTRATING THE PRACTICAL USE OF THE OPHTHALMOSCOPE, AS A MEANS OF DIAGNOSIS, IN CERTAIN DISEASES OF THE EYE.

BY E. L. HOLMES, M.D., OF CHICAGO, ILL.

[Continued from page 220.]

Case VI. Circumscribed Retinal Infiltration.—Patient was a young man, of delicate constitution, twenty-two years of age, whose eyes I had frequent opportunities of examining, through the kindness of his physician, a friend of mine. This young man, although so near-sighted, that, in reading, he was obliged to bring the book almost to his nose, was following a course of study in the scientific school of the city in which he lived.

His eyes becoming more easily fatigued after using them in this way, he employed a pair of powerful magnifying glasses. He soon required those of a higher power, and at last, was obliged to resort to a single convex lens (magnifying ten times), which he held, while reading, before the left eye, the right being kept closed. He continued this practice for six months, which gradually produced such an effect, that he was able to read but

a few moments without causing conjunctival congestion, pain and heat in and around the eyes, with increased secretion of tears. Patient finally became alarmed, and sought the advice of a physician. Even at this time, after a little rest, the eyes appeared, externally, perfectly normal, with the exception of a trifling congestion of the conjunctivæ. The left eye was found to be much more near-sighted even than the right.

On examining the retina of the former with the ophthalmoscope, it was observed to be normal, except in the immediate vicinity of the optic nerve (papule). This last was changed from its normal, yellowish color to a light red, except a small portion of its outer half. To the inner (nasal) side of the nerve, was a very bright yellow deposit, surrounding two-thirds of its circumference, and extending in all directions from it. This was so thick that it completely covered the vessels of the retina where they passed through it.

In descriptions of this kind, it must be remembered, that the papule of the optic nerve is not, perhaps, more than a line in diameter; the arteries and veins are exceedingly fine, scarcely so large as those of the healthy conjunctiva bulbi. The deposition of which I have just spoken, could not be more than three-tenths of an inch long, and one-tenth wide, embracing the nasal side of the nerve. Now, in examining the posterior portions of an eye with reflected light, we look through the crystalline lens of the patient, which magnifies the objects behind it about twenty-four times, unless its power be modified by the lens of the ophthalmoscope. Viewed through this lens, the papule appears about an inch, or perhaps a little less, in diameter, and the arteries and veins proportionately large. In the case before us, the deposit assumed a distinct form, irregular in outline, two or more inches across its longest, and two-thirds of an inch across its shortest diameter.

There is every reason to believe, that this abnormal product, from the manner in which it covers the retinal vessels, is a deposit of plastic lymph, involving the whole thickness of the substance of the retina within the limits in which it is found.

In the right eye, the optic papule, as well as the portions of

the retina, in its immediate vicinity, is highly congested, although no lymph has yet been deposited.

Undoubtedly, in the beginning, gentle antiphlogistic treatment, with due care in using the eyes, and a proper selection of glasses (if they had been found really necessary), would have prevented in a measure, at least, the progress of the disease.

REMARKS.—The preceding cases, although simple, and perhaps of comparatively little interest in themselves, illustrate the use of the ophthalmoscope in establishing the diagnosis of a numerous class of ophthalmic disease.

It is true, its ability has been more than questioned by oculists of considerable reputation. It has been styled a very pretty "scientific toy," without practical use.

But, any one who is familiar with the history of ophthalmic science during the past six or eight years, must observe the increasing estimation with which the instrument is regarded, not only in Europe, but also in this country. In the *New York Journal of Medicine* (March, 1859) Dr. F. J. Bumstead, assistant surgeon of the "New York Eye and Ear Infirmary," in his report of cases, states that the ophthalmoscope "is in constant use in the Infirmary," and "is regarded as an instrument of great value, which could not now be dispensed with."

In examining cases of the slightest capsular or lenticular opacity; of effusion of blood into, or formation of floating bodies in the vitreous humor; of the numerous diseases of the retina, choroid and optic nerve, the assistance of the ophthalmoscope is invaluable. Abnormal conditions, which formerly could only be suspected, now become objects of perception, as readily seen as a perforation of the membrana tympani, or a polypus in the meatus.

We are aware that, unfortunately in very many cases, in which the instrument is of assistance in making our diagnosis, the disease is utterly incurable. But, even this discovery, however unpleasant it may be to the humane physician, and however painful to the afflicted patient, is better far than *doubt*, for the physician may save himself the mortification of attempting to accomplish what he can never perform; and the patient may escape a useless, and perhaps painful and *expensive* course of

treatment. In medical science, and especially in diagnosis, the *fact, the truth*, should be the first object sought by the true physician, for this is the foundation upon which all real progress rests, and upon which every physician should base his advice and treatment.

The practical application of the instrument, and we may say the same of the microscope and stethoscope, is sometimes attended with difficulties; phenomena are occasionally observed, which cannot be interpreted upon any known principles of science. But probably these difficulties will gradually be removed, as experience shall furnish sufficient facts in the pathology of ophthalmic disease. Even with these difficulties in the way, there is scarcely an instrument, which, in its especial sphere, is able to assist the medical observer to such an extent as the ophthalmoscope.

Objections have been raised to the use of the instrument, as being injurious to the patient. They are, however, wholly groundless. Undoubtedly, too much light reflected even into a healthy eye, and especially into one affected by a disease accompanied with photophobia, would naturally tend to increase irritation. But it must be remembered that in a very large majority of instances in which the ophthalmoscope is required, the patient can bear, without trouble, the necessary degree of light, which need not exceed that of a gas light, or even the flame of a common candle. When the eye is peculiarly sensitive to light, a plain glass reflector, without amalgam, will throw sufficient light into the eye, without causing discomfort to the patient. When due regard is paid to the amount of light employed, and when the examination is made as rapidly as possible, there can never be danger of ill effects arising from it. I have seen very many patients examined with the ophthalmoscope, and have examined many myself, without ever having seen one who complained of injury.

It may be sometimes necessary to dilate the pupil with atropine. This almost always facilitates an examination, since without it the light from the reflector so contracts the pupil that it often becomes difficult to obtain a distinct image of the internal portions of the eye. The influences of atropine upon the eye is perfectly

harmless, although the continued dilatation of the pupil, by admitting more light than usual, may be attended with a little inconvenience to the patient for a day or two. It is always well, in such cases, to inform the patient of what he may expect in order that he may be prepared, if necessary, to leave his ordinary employment for a couple of days.

But, fortunately, it is not in cases of grave disease alone that the ophthalmoscope may lend us valuable aid. There are a large number of people in society who are constantly injuring their eyes in an almost endless variety of ways. Even before the patient experiences trouble enough to induce him to seek the advice of a physician, there is a congestion of the retina and choroid, which can be detected with the ophthalmoscope, as is proved by those who have systematically examined a large number of individuals employed in occupations which are trying to the eyes. Many of these individuals go through life without serious inconvenience, and yet are always more or less troubled with their eyes. Others, less fortunate, perhaps being obliged to continue in occupations which tend to render their condition worse, are finally compelled to seek other means of obtaining a subsistence. The physician, who can examine such patients *early*, can be guided by the revelations of the ophthalmoscope in giving the patient rational and beneficial advice. Experience proves, that many, who follow advice thus given, have been greatly benefited.

Even in some of the graver, non-malignant diseases, dependent upon inflammatory action, the physician may be able to recognize the commencing process, long before he could do so without the ophthalmoscope. Treatment may arrest the progress of the disease which, without it, might result in plastic exudation, a termination almost always fatal to vision.

ARTICLE III.

FOREIGN BODIES IN THE AIR PASSAGES.
CASE OF INTESTINAL CONCRETION.

BY CHARLES BRACKETT, M.D., ROCHESTER, IND.

The following cases of foreign bodies in the air passages, which were never removed by surgical interference, are somewhat interesting:

July 8th, 1852.—John Hochheim, of Marshall county, brought to me his boy, some two or three years of age, who not long before had got a German copper coin, of about the value of one-third of a cent—a kreutzer, I think, it is called—into the trachea. The patient was troubled with occasional attacks of suffocation, spasmodic cough, and suffering considerably for breath. I could detect by auscultation the seat, or location of the coin in the right bronchus. The mother would not consent to have tracheotomy performed. I directed quiet, and general attention to health telling what results might follow. Some weeks later, they brought the child again, willing that an operation might be performed. The coin had ulcerated its way down in the lung, so that I could, or did not recommend an operation. I saw the child occasionally after that, for a couple of years, when his health became better, and finally quite good, as I am informed. The patient is now living in Plymouth, Marshall county, in tolerable health.

Case II.—L. E. Rannells, of Rochester, some five years since, during my absence from town, got a grain of burned coffee in the lung, through the glottis. It found its way low down, filled one of the bronchi, produced severe constitutional disturbance, finally became fixed, and, I believe, is yet in the lung. The boy is healthy, but has grown in weight, or stature, scarcely at all, since the accident. I examined him frequently, and for a long time, could tell very nearly the precise location of the kernel, but, for the past two or three years, have not auscultated him.

Case III.—Shortly after harvest, last fall (1858), a man came to me, from the edge of Marshall county. His name I

did not take. Said his boy, some nine years of age, had got a water-melon seed in the wind-pipe. I told him what I could do for him, or what nature *might* do. He went home, consulted his wife, and concluded to let nature do her best. I saw the man week before last, who said that, during a severe attack of coughing, the melon seed, much decayed, was thrown from the wind-pipe of the boy with considerable of pus, and the patient was then quite hearty; that, for a long time, he tried to induce his wife to have an operation performed, but she preferred leaving the case to nature, and both believed he would die.

These three cases, I believe, could all have been speedily relieved by an operation shortly after the reception into the trachea of the foreign bodies. Yet they all, ultimately, did well, so far as they have progressed. I shall endeavor to keep watch of the two cases where the offending cause is not yet removed.

I saw the following case of intestinal concretion, April, 1849: Mrs. Wertz, in labor, as she and her attending physician supposed, for the past twenty-four hours before I saw her. A vaginal examination revealed to me that the rectum was impacted with a mass as nearly as large as a child's head. I gave an injection of inspissated ox gall, dissolved in warm water; after a short time, the woman became easy, comparatively speaking, got up to stool, and cried out that it was coming (meaning the child). I told her to bear down, which she did, and was delivered of a mass, about five inches in diameter. It was composed, I thought, mostly of magnesia, with fecal matter. She had been in the habit of eating carb. magnesia freely, for the relief of pyrosis and gastrodynia, was an inveterate opium eater; had had for some time previous a sort of dysenteric diarrhoea, and could not believe that there was any obstruction in the bowels. Two weeks afterwards, she was safely delivered of a healthy child, and became hearty, as usual for her. At that time, I was rather too fastidious, or over nice, to analyze, or measure carefully, a fecal mass of that kind, and it was thrown out. It was in size, however, fully as large as the head of a fetus at full time, as nearly as I could judge from ocular measurement.

[REMARKS.—We have taken the liberty of publishing the case of intestinal concretion, which, probably, was not intended for that purpose by Dr. Brackett.

In reference to the cases of foreign bodies in the air passages, while they show the power of the lungs to resist the deleterious action of substances so placed in certain cases, and although many similar cases may be found on record, they do not by any means justify the practice of deferring an operation, if the surgeon be called upon soon after the accident. The operation of tracheotomy for a foreign body, is not, in general, a dangerous one, if performed immediately. If deferred until inflammation has been developed, the result is often fatal.

How far a surgeon might be justified in advising against an operation when the foreign body is metallic, and the air passages have become so habituated to its presence that little inconvenience is felt, it is impossible to determine, such cases being rare. Metallic produce less irritation than non-metallic bodies, and when they become so imbedded as to be no longer moveable, it is obvious than an operation would not be advisable. The practice of Dr. Brackett seems to have been in accordance with this view, and was successful.—ED.]

ARTICLE IV.

CASE OF UNUNITED FRACTURE OF THE RADIUS OF ABOUT TWELVE WEEKS' STANDING CURED BY SUB-CUTANEOUS PERFORATION OF THE BONE.

By A. L. McARTHUR, M.D., of JOLIET, ILL.

Mr. H—, a laborer, aged thirty-five years, called at my office, October, 1856, to consult me in regard to an ununited fracture of the radius. The history he gave of his case is as follows:

Four months previously, while assisting in raising a building, he fell some fifteen feet, upon his left side and shoulder, fracturing the radius, and bruising the arm and shoulder severely.

The fracture was reduced, and treated by a physician in the neighborhood, in the usual manner, and with apparent success.

After four or five weeks, however, it was ascertained that the bones had not united. The doctor then put the arm into a starch bandage. Five weeks after, they were found, by examination, to be still ununited. A consultation was had, and it was decided to irritate the bones by rubbing them together, in order to get up an adhesive inflammation. This was done, and the arm put in a starch bandage. After the lapse of three or four weeks, the bones were found ununited.

The appearance of the limb when I first saw it, was soft, flabby, and atrophied, with a slightly oblique fracture of the radius, a little above the union of the middle and lower third. The usual modes of treating such fractures having been thoroughly tried, and failed, I resorted to the treatment by perforation, practiced and recommended by Professor Brainard. Procuring an instrument similar to an awl, save the end, which was flattened, I perforated the soft parts directly over the fracture, passing the instrument between the ends of the bones, nearly to the opposite side, the flattened surfaces of the instrument being at a right angle with the surfaces of fracture. The instrument was then withdrawn from the bones, which being turned to the right, and the soft parts to the left, the instrument was thrust through the fracture at a new point. Withdrawing the instrument from the fracture, the operation was reversed, by rotating the bones to the left, and the soft parts to the right, and the instrument passed nearly through again. The limb was then loosely dressed in the ordinary way, with splints and roller. On the following day, contrary to expectation, the limb appeared as before; no apparent inflammation or swelling; slight tenderness at the point of perforation. I dressed the forearm with a starch bandage, and the man returned to his home in the country. Four or five weeks after, he returned, the bandages were removed, and the bones were found to have united. He carried the arm in a sling for a few weeks, and, greatly to his surprise and gratification, he had a sound and useful limb.

ARTICLE V.

CASE OF PROTRACTED GESTATION.

BY DR. W. E. STONE, OF MANHATTAN, INDIANA.

Case.—Mrs. K., aged twenty-four years, sanguine-bilious temperament, and of usually good health, lost her husband on the 17th of March, 1858, from which time, as the catamenia did not manifest itself, she deemed herself probably pregnant, which supposition induced her to consult me as early as the last of May, 1858, when I gained from her the following history :

Last menstruation on the 25th of February, 1858. Last sexual intercourse on the 10th of March, 1858. Feels somewhat different from a former gestation (having had one previous gestation), especially in an absence of gastric irritation, with which she was much troubled in the first.

As no urgent symptoms were present, I dismissed my patient, by informing her that she was likely pregnant, and by requesting her to acquaint me with any derangement of her general health that might occur, when we would more fully investigate her condition.

No further information of the case till the 13th of July, 1858, when she informed me that undoubted quickening had occurred on the 8th of July, making one hundred and thirty-three days from last catamenia, and one hundred and twenty days from last sexual intercourse.

From this time up to the 15th of December, nothing of unusual interest transpired, at which time (15th December), "spurious pains" occurred, lasting twelve hours, and regularly occurring on the eighth day, for five weeks, when they came up every second or third day, till the 3d of February, 1859, at which time, and with a favorable labor, she was delivered of a female child, weighing eight lbs.

During the last two months of gestation, the movements of the foetus were very strong, causing much suffering to the mother.

Resume of dates:

Number of days from last catamenia to delivery,	.	.	343
" " " sex. inter.	"	.	330
" " " catamen. to quickening,	.	.	133
" " " sexual cong.	"	.	120

Development of Infant.—The osseous system was extraordinarily well developed, the sub-cutaneous processes being well fitted, and firm; the articulations firm and compact; the cranial bones immovably united by the sutures, and the posterior fontanelle entirely closed,—the anterior also closed by the inner tablet, inasmuch as no pulsation was observable. The skin was freely organized, and of that fine tint characteristic of a three months infant. In a word, the general appearance of this infant was fully up to that of most infants three months old.

Peculiarities of Placenta, Liquor Amnii, etc.—About one-fourth of the structure of the placenta was osseous matter, arranged in lamella, and irregular granules. The placenta about the usual size. The liquor amnii normal in amount, of a light straw color, and quite viscid; uniting, also, a strong, urinous odor. The membranes of sufficient firmness to form a basket that would support the child's weight, no doubt.

Character of Mrs. K.—The lady has always sustained an irreproachable deportment, and stood high in the estimation of those knowing her intimately. Indeed, she is distinctly reserved, and modest in her social intercourse with friends.

Opinion and Character of the Physicians who have seen, and are acquainted with the circumstances of the case.—The following physicians have seen, and examined the infant: Drs. Layman, Knight, Heavenridge, W. M. Denny, and R. B. Denny. They all entertain the opinion that this was a case of protracted gestation, and are fully satisfied that the child is legitimate.

It is but just to say of the above named physicians, that they sustain a good character with their professional brethren, and deservedly, too, as they are qualified for their business.

With this brief history, the case is submitted to the profession, only adding the assurance, that no effort has been made to "bolster up" the case on false statements, but a plain statement of facts have been aimed at.

TRANSLATIONS FROM FOREIGN JOURNALS.

[From Brown-Sequard's "Journal de la Physiologie."]

TWO MEMOIRS ON THE VARIATIONS OF COLOR OF THE
VENOUS BLOOD.

BY PROFESSOR CLAUDE BERNARD.

[Read to the Academy of Sciences, Aug. 9 and Sept. 6, 1858.]

TRANSLATED BY THOMAS BEVAN.

I. On the influence of the two orders of nerves which determine the variations of color of the venous blood in the glandular organs.

In a communication, made to the January meeting for 1857, I showed that the glandular venous blood and the muscular venous blood presented an absolutely opposite color when considered during the active state of these organs.

When a muscle acts and contracts itself, the venous blood that is poured out is very dark. When the gland is secreting, and expels the product of its action, the venous blood it furnishes is, on the contrary, of a scarlet color, at times entirely identical with arterial blood. Whence it follows, in glands of intermittent secretion, there exists an alternate coloration of red and dark in the venous blood, according as the organ is in the one or other of the two physiological conditions, denominated states of function and repose.

After having established these preliminary facts, I continued my researches, with the purpose of determining what were the modifications of composition, corresponding to these so marked differences of color. I have succeeded, I believe, in finding the explanation. But, before entering upon the exposition of the experiments which relate to the purely chemical side of the phenomenon, I believe it indispensable to make known the physiological conditions of the nervous system, which regulate these special chemico-organic actions. I will even insist upon this subject, because the study of the mechanism by which the nerves act to effect the chemical phenomena which occur in the

living organism, has always appeared to me the capital object which should pre-occupy the physiologist.

I desire to show to-day, that the particular chemical conditions which in the glands make the blood appear sometimes red, at others dark, are determined by the influence of two nerves, which have distinct origins, and possess in some sort, antagonistic action. In other words, that there exists a glandular nerve, which leaves the color of the venous blood red, and another which makes it become dark. I will show afterwards, that each of these nerves, to act chemically on the blood, modify, in an opposite manner, the mechanical phenomena of the capillary circulation; so that it establishes a necessary correlation, easy to be understood, between the chemical modifications the blood experiences in the organic tissues, and the mechanical conditions of the capillary circulation which are under the immediate influence of the nerves.

In order to the better understanding of the facts which are to follow, and for facilitating the study to those who wish to reproduce them, I ought to say, that all the results of the experiments here in question have been obtained upon the sub-maxillary gland of the dog, which is particularly proper for this sort of research, on account of its intermittent secretion, which renders very clear the variations in color of its venous blood.

II. The nerve that causes the red appearance of the venous blood in the vein of the sub-maxillary gland is a filament which detaches itself behind the lingual branch of the fifth pair. But it is only joined to the fifth pair; it in reality comes from the seventh, and is especially constituted by the *chorda tympanæ*. However it may be, this glandular-nervous filament may be easily reached at the point where it separates from the lingual to go to its distribution in the sub-maxillary gland, accompanying its excretory duct.

Now, when we consider the sub-maxillary gland provided with all these nerves, in a state of repose, that is to say, when nothing passes by its secretory duct, it is observed that the venous blood possesses a dark color. But, if at this moment the glandular nerve above mentioned is made to act, the blood

which was previously flowing dark, becomes more and more red, and soon appears as entirely so as the arterial, and permits the establishment of this physiological proposition, that, when the action of the tympanico-lingual nerve is manifested energetically, the venous blood of the sub-maxillary gland appears red, while it becomes dark when this nervous filament fails to act, or when its action ceases to preponderate.

Nothing is more easy than to give the experimental proof of this special influence of the tympanico-lingual nerve on the color of the venous blood. In effect, when, after having exposed the glandular vein, and the nervous filament in question, we determine a gustative impression by putting a little vinegar in the mouth, we see the blood become rapidly ruddy in the vein, because the gustative impression produced on the tongue, and carried to the nervous centre, has been transmitted by reflex action through the chorda tympanæ. The proof of this interpretation is given immediately; for, if we cut the tympanico-lingual filament at the point where it separates from the lingual nerve, we observe the venous blood of the gland to remain dark, and from this moment, notwithstanding the instillation of vinegar on the tongue, notwithstanding the gustative sensation perceived, the red color fails to re-appear, because the nervous route by which it received this modifying power on the blood has been obstructed. But if, taking this glandular nerve at the point of section behind the lingual, we irritate by means of galvanism its peripheral end, which still holds to the gland, we soon see, under the influence of this artificial excitant, the blood in the glandular vein become red, and again take its dark color when the excitation has ceased. This last experiment furnishes, therefore, a new argument to prove that the red color of the venous blood of the sub-maxillary gland is in direct relation with the activity of the tympanico-lingual nerve, and that its dark color depends, on the contrary, on its state of physiological inactivity.

But it will not do to believe that, in case of repose of the gland, that the dark color of the blood seen is nothing but the passive result of the paralysis, or default of action of the tympanico-lingual nerve. This dark color of the blood is itself due

to the action of another nerve, which acts in rendering the blood dark, and whose permanent influence is shown to be antagonistic to the tympanico-lingual, whose action appears to be more properly of an intermittent character.

III. The nerve which renders the venous blood dark in the sub-maxillary gland comes from the great sympathetic, and arrives in the gland accompanying the arterial branches of the external carotid, which go to it; the one small, penetrating the gland at its posterior and superior part; the other, the principal glandular artery, enters at the umbilicus of the gland by the side of its excretory duct. These glandular filaments of the sympathetic nerve come off, for the most part, from the superior cervical ganglion, they anastomose elsewhere, with filaments coming from other sources, and particularly the mylo-hyoidien, at the point where this nerve crosses the track of the facial artery.

When we consider the sub-maxillary gland in the physiological state, with all its nerves in repose, we have said the venous blood is dark; but that comes at the moment, from the activity of the great sympathetic, which renders the blood dark, predominating that of the tympanico-lingual, which renders it red. This is very easily proven; for, in this condition, if we cut all the filaments of the great sympathetic, which go to the gland, we see the venous blood lose its dark color to take a ruddy tint, which becomes permanent, because the nervous influence of the sympathetic is interrupted, and does not reach the gland.

But, if we now re-establish artificially the influence of this nerve, and excite by galvanism the peripheral end of the sympathetic filament, which still holds to the gland, we soon see the venous blood become very dark, to retake its red color when the galvanization of the nerve has ceased to act. We may, therefore, formula a physiological proposition inverse to that expressed for the tympanico-lingual, and say that the venous blood of the sub-maxillary gland is dark at all times, when the sympathetic acts, and is so in proportion as the action of this nerve is energetic.

By what precedes, we have acquired the experimental demonstration, that the variations of color of the glandular venous blood are due to two nervous influences, well determined and

entirely distinct. But, how understand the mechanism of this influence of the nerves on the blood? There is no anatomical continuity, and, in consequence, no direct chemical action possible, on the part of the nerves upon the globules of blood, to modify their color. It is necessary, therefore, that there should be other intermediate phenomena between the nervous action and the chemical modification of the blood globule. In fact, these intermediate conditions exist, and are constituted by the diverse mechanical modifications which each nerve brings to bear in the capillary circulation of the gland, modifications which we will now examine.

IV. The mechanical conditions of the capillary circulation determined in the sub-maxillary gland by the tympanico-lingual nerve, and by the sympathetic, are exactly opposite.

When the tympanico-lingual nerve is excited, the venous blood appears red, and at the same time, there supervenes a considerable increase in the activity of the circulation. In proportion as the venous blood becomes redder, it circulates more and more readily, and the quantity which flows from the vein is shown to be much more considerable.

When the great sympathetic acts, it renders the venous blood dark, and at the same time lessens the activity of the circulation. The blood flows from the vein in less quantity, as it is more dark; even if the action of the sympathetic nerve is tolerably energetic, the sanguinous flow may be completely arrested in the vein, to reappear when the excitation of the sympathetic ceases, and to become accelerated anew, if the tympanico-lingual nerve is acted upon.

These results, which are constant, teach us, therefore, that the red and dark coloration of the venous blood is in a determined ratio to the rapidity of the circulation in the sub-maxillary gland. But this rapidity itself, of the course of the blood, cannot be effected by the nerves, which do not act, in any case, directly on the sanguinous fluid. The contraction and dilatation which we have seen to exist in the vessels of the gland can alone account for these modifications in the properties of the blood.

[To be continued.]

ABSTRACT OF AN ARTICLE ON THE "ANATOMY AND PHYSIOLOGY OF THE WHITE CORPUSCLES OF THE BLOOD (LEUCOCYTES)."

BY DR. C. ROBIN.

[Translated from the "Journal de la Physiologie," by E. L. HOLMES, M.D., of Chicago.]

The "white globules" (*Leucocytes*) is a name applied to those elements of the body, which are observed, either in the form of cells, or of free nuclei. These last, few in number, are spherical, without nucleoli, readily contracted and corrugated, by the action of acetic acid; the cells, of spherical form, are distinguished by irregularities of surface, and, above all, by being partially coagulated and dissolved by water, acetic acid, etc., which render them pale, and cause the appearance of nuclei, varying in number from one to four, when their granules have not been replaced by oil granules, which are often found in them.

§ I. *The distribution of the white globules in the system.*

These corpuscles comprise an element, which is found in the greatest number of animal tissues. Their anatomical and physiological history is of the greatest interest, on account of the variety of their forms, of the readiness with which they spring into existence and modify their structure. They are found in all parts of the body, where the red corpuscles are traced, and also in the lymph; in the smaller veins and arteries they usually lie in contact with their lining membranes. They are found in blood coagulated, either after death, or in a ligated artery, in an ordinary clot, obtained from bleeding, or from an apoplectic extravasation.

We obtain them from the splenic, renal, portal and pulmonary veins, perhaps in greater numbers, from these veins in the foetus than in the adult; in the lymphatics of the neck, testis and groin, often in masses perceptible to the naked eye. It is in these various situations, that these bodies have been called respectively white globules of the blood, lymph, or chyle globules.

We meet them in all the fluids of the body, whether normal or abnormal.

They are especially numerous on the mucous surface of organs in a state of irritation, as, for instance, in the mucous of the bladder in certain conditions; they give the peculiar color to pus and so called "mucous;" tubercles also contain a perceptible portion of these globules.

§ II. *The form and composition of the white globules.*

The white globules assume forms varying with the places and conditions in which they are developed. They may be ovoid polyhedrous, or roughened like the surface of a mulberry. These forms soon, however, become perfectly spherical, when the causes which produced these differences of form have passed away. The various degrees of irritation and inflammation seem to exert great influence upon the forms of the white corpuscles; whenever these influences are alike in the different mucous membranes, the corpuscles all present precisely the same characteristics.

In a 1000 parts, there are found:

Of water,	790.00	Fatty matter,	26.50
Salts,	43.00	Organic substances,	140.00
Iron,	a trace.	Albumen,	a trace.
Lactates,	undetermined.	Othersubstancesundetermined.	

§ III. *Origin of the white corpuscles.*

The white corpuscles are produced in all the various portions of the body in which they are found. Although inflammation is favorable to the production of the blastema, in which the corpuscles find their elements, it is not *necessary* to this development. Their presence in the vitreous humor, etc., prove that they may be developed in the tissues in which they are found, without the influence of glands. In several abnormal conditions, as intermittent fever, hypertrophy of the spleen and liver, typhoid fever, dysentery, and any form of cachexia, these corpuscles are developed in great numbers, producing the state known as leucocythemia.

§ IV. *Relation of the white to the red corpuscles.*

It was formerly believed that the white corpuscles are imperfectly developed red globules of the blood.

There is no evidence of this. Minute examinations of animals in an embryonic state, prove that the white corpuscles do not make their appearance till after the red globules are developed in considerable numbers.

§ V. *Development of the white corpuscles of pus.*

Like other elements of the system, the white corpuscles sometime appear in places where they do not normally exist; for instance, between the tissues of a muscle, in the form of abscess. Liquid tumors (abscess) are formed upon the same principle as solid tumors of different kinds, and, like these last, they invade the surrounding tissues, producing atrophy by pressure. Frequently, even bone is absorbed under the pressure of a tumor. The tissues surrounding an abscess are also gradually absorbed, till finally the pus is discharged, either through the integuments, or into one of the internal cavities. The development of the white corpuscles is generally far more rapid than cells which comprise solid tumors. That these pus globules are not lifeless red corpuscles, is shown by the fact, that they live, develop, become hypertrophied, and pass through all the modifications peculiar to a distinct class of organized cells.

We are able to watch the production of these corpuscles only on the surfaces deprived of the external integument.

In such conditions, we observe the following phenomena: at first there is an exudation of minute transparent drops, perhaps slightly colored with red corpuscles, forming a granular blastema; in the course of half an hour, sometimes less time, there are formed minute pale, transparent globules, granular, and often somewhat colored. The course of development goes rapidly forward till pus is formed, and when this has once taken place, a repetition of the same process continues.

§ VI. *Hypertrophy of the white corpuscles.*

The white corpuscles become hypertrophied whenever they

are confined for a long time in collections, more or less minute. They become enlarged and granular in softened portions of the brain or spinal marrow; in epithelial and glandular tumors; in small purulent deposits in the lungs. In venous dilatations, sanguineous and synovial cysts, we find the white corpuscles granular and nearly double their usual size.

VII. The destruction (disappearance) of the white globules.

The duration of the white corpuscles is different in different regions of the body. Those of the lymph disappear in their passage through the blood. The manner in which they disappear is wholly unknown. That they become atrophied and rapidly pass away is seen in cases of leucocythemia, where the number of these corpuscles, largely increased, soon becomes normal.

There is no proof that they are changed to red corpuscles. In the very early stages of embryonic life, although the red corpuscles are very light colored, they do not resemble the white corpuscles.

It is well known that purulent collections sometimes become completely absorbed. The corpuscles often seem to become firmly molecular, and dissolved in the serum of the blood. But what, then, becomes of them at this stage of destruction is unknown.

RESECTION OF THE KNEE JOINT.

[Discussion in the Society of Surgery, Paris, Nov. 3, 1858.]

M. Larrey presented, in behalf of Dr. Daniel Brainard, of Chicago, Illinois, a successful case of resection of the knee joint, and a table of many of the operations of this kind which have been performed up to this time.

On the occasion of the case communicated in the name of M. Brainard, M. Robert requested that the society should not judge the operation without knowledge of the final results of these operations. He asked if, after resection of the knee,

an anchylosis of the leg with the thigh, takes place; for, if not, it would be a very bad operation, one which he has no desire to perform.

M. Follin said, that M. Robert was already answered by facts, and we may affirm, that the immediate results are altogether as favorable as after amputation of the thigh in the continuity. The statistics which he had published, prove that osseous or strongly fibrous union generally takes place. The method of operating is not without its effect, and that of M. Ferguson appears to merit the preference. The operation ought to remain in the science, and the objection that the limb operated on does not grow, is not well founded, as a shoe with a high heel can supply the deficiency in point of length.

M. Broca thought that the deficiency of growth of the member is one of the gravest objections which can be urged against resection of the knee joint in young subjects. The want of solidity is not of frequent occurrence in the lower member.

M. Larrey, in speaking of a successful result, did not wish to pronounce finally upon resection of the knee. The failure to report unsuccessful cases renders statistics of operations necessarily incomplete. He thinks that resections of the kind can only be useful when bony union occurs.

M. Marjolin did not advocate the operation. Half the patients which he has seen operated died. The English are passionately fond of resections, but, considering the number of these operations performed at London, we might demand if some of the patients might not have been cured without any operation.

M. Giraldes could not agree with M. Marjolin. He had seen resections at London, which succeeded perfectly. The English surgeons had resolved the question of union. After this operation, the question of when it is proper to perform it (of indication) only remained to us to decide.

M. Maisonneuve spoke against the operation.

M. Larrey reminded the society, that the English surgeons are not alone in favor of this operation. MM. Texter and Heyfelder, of Germany, had also performed it.

At the following meeting, M. Giraldes took up the subject

again. He said that, from tables prepared by himself from the *Dublin Medical Journal*, the *Lancet*, the *Medical Times*, and *Edinburgh Monthly Journal*, it appears that the operation may be divided into four series :

1, from 1762 to 1830, 19 operations,	12 deaths.
2, " 1830 to 1854, 31 "	5 "
3, " 1854 to 1856, 51 "	9 "
4, " 1856 to 1858, 26 "	7 "
Total, . 127	33

[NOTE.—We have, at the present time, knowledge of four other operations of resection of the knee joint, not yet, or only recently published. One of these is by Dr. J. M. Warren, for ankylosis; one by Dr. Burnham, of Lowell, also for ankylosis; one by Dr. J. W. Freer, of Chicago, for caries of the femur; one by Dr. Brainard, for the same cause. The first two of these seem to have been so far advanced as to justify the belief that a cure was effected. The latter was not as yet sufficiently advanced to determine that point; one having been performed about three months since, at the Mercy Hospital; the other, about eight weeks ago, at the U. S. Marine Hospital, Chicago. However, it may safely be affirmed of both these, that they are quite past the period of danger, and that they both seem in the way of recovery, with useful members.

We propose to return to this subject at no distant day. M. Giraldez has correctly stated it as one of indication only, as there can be no doubt of its value when properly employed. It is only by abuse that it can fall into discredit.

Since writing the above, we have noticed the report of two additional cases by M. Ferguson; both resulted fatally; one from disease of the lungs, the other from disease of the kidneys. If the surgeon were less distinguished and careful than M. Ferguson is known to be, we should be disposed to inquire if, in these cases, the operation was not contra-indicated.]

ON THE ARTIFICIAL PRODUCTION OF BONE.

BY DR. LEOPOLD OLLIER.

[Translated from the "Journal de la Physiologie," by E. L. HOLMES, M.D., of Chicago.]

Conclusions, and their Application to Surgery.

I. The reproduction of bone proceeds from the inner surface of the transplanted periosteum. Wherever a portion of this membrane can be transplanted, new bone is formed, either adherent to the bone from which it was taken, or entirely independent of it, according as it is suffered to remain, partially connected with the rest of the periosteum, or is completely detached from it.

II. In transplanting portions of the periosteum, bone of various forms and dimensions can be obtained, circular, in the form of the figure 8, spiral, etc., according to the shape and position of the flap, consequently, we have perfect control over the direction and extent of the process of ossification.

III. Bones thus developed are not simple, shapeless concretions of calcareous matter; they consist of true bone, found with all the anatomical characteristics of true bone. In proportion to their development, they resemble normal bony tissue, with an external compact layer, and a medullary cavity in the interior. This cavity is filled with a marrow, resembling, in all respects, that of healthy bones.

IV. The new bone is developed in the sub-periosteal blastema, which exists normally upon the inner surface of the periosteum. This proposition is demonstrated by an examination of the formation of the new bone, and by removing this layer of blastema, when the reproduction of bone is suppressed, or at least, for a time, arrested.

V. This blastema consists especially of free nucleoli, enclosed in cells, floating in a semi-liquid, transparent, or finely granular material, and mingled with more or less fibrinous elements.

These various embryonic elements develop and multiply in the exudation (at first amorphous) furnished by the capillaries of the periosteum.

VI. The sub-periosteal product, which is observed the first few days following the transplantation, is generally cartilaginous; but the succeeding development of bone progresses without this intermediate element. This cartilage, moreover, differs in structure and appearance of its anatomical elements, from the normal cartilage of the epiphysis.

VII. An analogous membrane is found after a time, upon the surface of bone, from which the periosteum has been removed.

VIII. When we removed a bone, or a portion of a bone, leaving its periosteum attached to the tissues which normally cover it, we observed at the end of a certain time, that this bone, or portion of bone, is reproduced to a quarter or less extent. The reproduction is sometimes perfect. The soft tissues cannot supply the place of the periosteum; nor do they directly contribute to the ossification.

The reproduction of bone is in proportion to the amount of periosteum preserved in the wound. When a segment of bone, embracing its whole thickness, is removed, its reproduction depends solely upon the periosteum.

IX. After the resection of the articular extremities of two contiguous bones, a new articulation is formed, if the capsule and ligaments are left on all sides, connected with the periosteum of the resected bones. The two bony extremities are remodelled independently.

The surgical deductions, which we may draw from our experiments, are numerous; but we will only mention the most important, which refer to resections, and to autoplasmic operations.

In resections, art should not be content simply to remove the diseased portions; it should also endeavor to reproduce the fragments of bone which it has destroyed. Experimental physiology suggests to us the means; it teaches us why resections have hitherto been so seldom followed with reproduction of bone, and shows what course we should follow in the future. The preservation of the periosteum is of the highest importance. We have endeavored to demonstrate in a recent work, that, in spite of certain inherent anatomical and physiological difficul-

ties, this is practicable, partially at least; and we have proved that clinical observation has already fully confirmed the truth of the assertion. As regards autoplasty, we think that the continuation of ossifying secretions from the wide surface of the transplanted periosteum, increases its importance and extends its application. Since, in animals, we obtain bone wherever we transplant periosteum, we can expect similar results, under certain circumstances, in man, by obtaining portions of periosteum within the flaps. Innumerable difficulties arise in our mind, when we reflect upon the realization of this idea, which we should see in order to avoid them. But they do not seem wholly unsurmountable.

Periosteal astrophasty (operations, whose object is to reproduce bone by means of transplanted periosteum) is now a rational undertaking.

There is still another application of these principles not directly illustrated by the experiments just reported, but yet in a measure related to them, which we have verified in especial experiments; we refer to the rational mode of diminishing the chance of suppurative inflammation of the bones, after amputations, and of inducing thereby union of the flaps by first intention. The periosteum unites with bony more readily than with any other tissue. The nature of the organizing elements which cover the inner surface of the membrane, and its especial function in ossification, enable us readily to comprehend the causes of this result, which experiment also demonstrated.

We believe that it will prove very useful after amputation, to cover the end of the bone and medullary canal with a small piece of periosteum.

Experiments upon animals illustrated the feasibility of this plan already proposed, but too often neglected, as it seems to us, without sufficient cause. The reasons which lead us to recommend it now, are not those formerly given; they are based upon physiological facts. The difficulty of the operation ought not to influence us, when so much advantage is at stake. We need fear no accident; at most, this step in the operation may prove simply useless.

EXTRACTS.

NURSING SORE MOUTH; ITS NATURE, CAUSE, AND TREATMENT.

By T. J. W. PRAY, M.D., Dover, N. H., Orator for 1867.

Mr. President, and Gentlemen of the New Hampshire Medical Society :

It would be far more pleasing to address you at this time upon some general topic, that has a remote bearing upon the science of medicine, than to discuss some known disease about which there is an honest difference of opinion ; for, in the one, there is a chance for digression and amplification of the subject, perhaps more becoming an oration before this Society ; in the other, there is no opportunity to go into the realms of fancy, or to make use of elegant and forcible sentences, but we have to grapple with disease as it exhibits itself in our daily business : to dress up our thoughts in the simple, unadorned style of truth, in order to properly describe the operations of diseased action. Contrary, then, to the usual practice which is becoming too prevalent, I think, for scientific men, I have chose to walk out of the customary prescribed path, and shall, with your indulgence, give some thoughts upon a complaint of some importance to the medical profession, and about which there is apparently much obscurity as to its exact nature. I do this with the hope that the thoughts thrown out here may induce a more thorough investigation among physicians in this State as to the affection.

My subject on this occasion will be "Nursing Sore Mouth, as it is called—its Nature, Causes, and Treatment."

With the exception of Drs. Wood and Bell, no author, so far as we can learn, has incorporated into his works "Nursing Sore Mouth" as a distinct or separate disease, or treated it as such. This strange silence of standard writers and best nosologists to speak of any affection "peculiar to lying-in women," characterized by the phenomena that usually accompany this complaint, scarcely admits of a satisfactory explanation, unless it is unobserved in some localities ; or if so, it is regarded as nothing else but some new development of nature to show us the incomprehensibility of her often unfathomable laws ; or at most, is deemed only another form of some ailment long known to the medical world, and described under the head of those diseases with a like assemblage of symptoms, and therefore thought not worthy

of special classification and description. The latter supposition is far the more probable.

Previous to the year 1830, all history is silent as to the existence of this anomalous affection. Dr. Hale of Massachusetts first published a paper upon this subject, and described it as a disease familiar with women during gestation and lactation.—(See Com. of Mass. Med. Soc., vol. 5, 1830.) Since which time, Medical Journals have occasionally contained brief, but imperfect sketches as it existed in different parts of the United States. Some of these are nothing more than a few well marked cases, either recommending some favorite remedy that succeeded admirably in the practice of the writer, or containing a few facts hardly capable of being woven into a theory, as to the origin and nature of the complaint. But from what is written, we infer, that it prevails equally in the colder climates of New England, and the British Provinces, as well as in the warm and more genial temperature of the Southern States; that it exists in isolated cases along the coast of the Atlantic ocean from Maine to Florida; that inland towns surrounded by a humid atmosphere, away from the invigorating breezes of the coast, witness oftener its ravages; and that variety of soil and local causes act but feebly in its production, only modifying, but not controlling its development.

It would seem that some localities are comparatively exempt from this sore mouth. We are unable to find any adequate description of it as being common in the Middle States. The distinguished Dr. Dewees of Philadelphia, so well known by his valuable contributions to the science of medicine, never met with a solitary instance of this affection in that city. But notwithstanding this, we are of the opinion it may be sometimes observed in this section of our country, as it is known to exist in the same latitude, only a few miles distant. Perhaps it may not be attended with that severity and obstinacy with which it visits other places; hence the reason of its not being there described.

This disease is by no means indigenous to the United States. Other lands acknowledge its prevalence, but our information upon this point is very imperfect. In Great Britain, especially the northern part, it is said to be a rare disease. In Germany and France it is more frequent. "In the former country," remarks Dr. Gage,* "whole wards in some of the lying-in hospitals are crowded with women laboring under its severity." "At the Paris Hospital," writes Dr. Field,† "it is quite com-

* Manchester, N. H.

† Bangor, Me.

mon in females, and the French physicians believe it traceable in some form or other far back into antiquity."

In this connection it may not be amiss to note, that for the most part, nursing sore mouth is sporadic; yet like many other diseases, it sometimes travels out of its accustomed path, and invests itself with intractable management. It is more obstinate in some seasons than in others; and yields, according to some writers, not so readily to treatment. In Berkshire county, Mass., "a mountainous region," it existed as an epidemic in 1833; and in 1836, at Middletown, Connecticut. We have an impression, that in the State of New York, it has had a similar history. In this respect, it is not unlike the apthæ, which Van Swieten observed in his time. "In Holland," he remarks, "this malady spread itself epidemically in the year twenty-eight" of the seventeenth century; and yet he mentions the singular circumstance, that during his sojourn of five years at Vienna, he never witnessed a single case of apthæ, and gives as a reason for this, "that the complaint was most familiar to cold and wet climates."

Almost all American writers, who have considered this subject, have supposed it a *nova pestis*. But, in this, we believe they are mistaken. We think it as old as the medical art. Before the article of Dr. Hale, it was, as we have before written, doubtless placed under the general head of those diseases technically called, Apthæ, and accordingly, all its literature we find credited to this class of complaints, whether rightfully or not we shall presently see. In the days of Hippocrates, an apthous state of the mouth, dangerous and obstinate, was occasionally noticed. He tells us of a nursing female, who lay ill of the fever, and "whose tongue was roughly set with tubercles, like hail." Then he speaks of a "Thrush" of a grave character, and there can be no question as to its identity with what is called the sore mouth of nursing women. His language is, "Thrush in the mouth is bad in women with child;" that "fluxes that are apthous are a mischievous sign in women with child;" and that "a thrush of the mouth brings a flux of the bowels to women with child." Certainly this answers well the description of the "modern Thrush," which has been termed the "*opprobrium medicorum*," on account of its virulence and unyielding nature, as it presents itself in some individuals. Retelaer, in his work, "De Apthis," makes mention of a singular and like affection, which he noticed "in the moist regions of Zealand." Van Swieten, in his Commentaries, has discussed the question, "Why apthæ of the mouth in women with child presage abortion?" assuredly indicating that a kindred disease was not then

unknown, and troublesome to women in the puerperal state. His description of some forms and symptoms of the "Thrush" he met with, corresponds in almost every particular to the malady we are considering. If we come down to the present century, the opinion prevails to some extent, that it is not of modern date. In a recent conversation with the learned and venerable Dr. James Jackson, of Boston, he stated that he had frequently seen this sore mouth, early in his professional career. He began his profession in the year 1800, and occasionally noticed it from that time to 1818, when he renounced the practice of midwifery for other important duties.

Thus much is known of its general history. Let us now turn to a more particular consideration of Nursing Sore Mouth.

It has been examined by writers under the various titles of "Sore Mouth in Nursing Women;" "Stomatitis Nutricum;" "Puerperal Anæmia;" "Stomatitis in Pregnancy, and during Lactation;" and simply "Stomatitis." It is thus called, because of its supposed familiarity with females in gestation and lactation, and existing at no other time.

This disease is sufficiently identified by these various synonyms; and there is but little probability of misapprehending what is meant by writers, by the term, "nursing sore mouth," unless it be confounded with those affections controlled by similar laws of existence, and not unfrequently seen in like condition of the system. We mean, of course, those diseases described under the general head of apthæ. We propose to examine, in a manner as concise as possible, the relation of nursing sore mouth to, and points of correspondence with apthæ, the only complaint it in the least resembles, and for which it may be possibly mistaken. Dr. Ely, of New York, remarks on this point, "We have thought in comparing the description given of 'chronic thrush' with that given by some writers of this affection, that if the terms were changed the description would be improved."*

Before, however, instituting a parallelism between these two forms of disease, we would remark, that nursing sore mouth is characterized by inflammation and ulceration, and is never so named, unless ulcers or their premonitory symptoms are observed. Dr. Knapp, formerly of Iowa, has referred to two articles; the one published by Dr. W. Channing, of Boston, on "Notes on Anæmia, principally with its connection with the Puerperal state;" the other by Dr. M. Hall, on "Mimosis Inquieta," which, if acknowledged to be examples of this disease,

* Boston Medical Journal, vol. 39, page 41.

would go to show, that ulceration is not always necessary to constitute this affection. Let us briefly examine these two articles. Of the sixteen cases of *Anhæmia*, reported by Dr. Channing, only one had any soreness of the mouth, and it cannot be inferred from the report of this case that it was an annoying attendant,* or formed a peculiarity in the cases narrated. In the *post mortem* examination, no remark is made of inflammation or ulceration being observed in the mouth or intestinal tube. Dr. Hall says nothing of the soreness of the mouth in his description of *Mimosis Inquieta*, which he certainly would have done, had it been a prominent symptom, as all will bear testimony, knowing with what minuteness and accuracy he enumerates the various phenomena of this class of diseases. The affection of Drs. Channing and Hall are, evidently, *anæmia*, and were so considered. It is barely possible, that ulceration may not be visible, and still the disease exist; if so, future investigation will alone elucidate this question; the past has failed to do so.

But let us return from our digression. Are there any real distinctions between apthæ and the sore mouth of nursing women, which can be defined, or made the basis of any variety of treatment? When can the line of demarkation be drawn?

Now, to properly appreciate the difference, or similarities of these two affections, it must be done by comparing the prominent symptoms of each, course of disease, or the physical lesions of either. In doing this, we do not propose to go into an extended examination of this question, but a statement of the chief and leading points of difference and resemblance may not be inappropriate. They simulate each other in many respects.

1st. They both, as we have already seen, occur epidemically, without any discoverable connection with season and temperature. This fact is acknowledged by several writers, and it is needless to enlarge thereupon.

2d. They have the same laws in regard to location. Some places are entirely free from apthæ. It is thus with nursing sore mouth.

3d. *In their physical lesions.* Nursing sore mouth commences on the edge of the tongue inside of the cheeks, and then extending to the mucous lining of the œsophagus, and to the stomach. Apthæ also attacks the same parts. Here then is no disagreement among writers, who have described the pathology

* See New England Medical Journal, vol. 1, page 157.

of both complaints. They are said to differ, if at all, in the extent and severity of the lesions. The former is supposed to be more severe in the character of the ulceration, than common *apthæ*.

They do not affect the mouth alone, but similar lesions are discovered elsewhere. Dr. Brainard,* President of Rush College, says he has met with the same kind of ulceration in the genital organs, with white ulcerated patches about the orifice of the vagina and urethra, which caused great smarting on urination. This state of things continued in one female during the first and second lactation and pregnancy. Its second reappearance was in so severe a form as to endanger her life and render necessary the induction of premature labor, when it ceased there, and attacked the mouth. The writer has reported several cases attended with the same pathological appearance. Van Swieten also was a witness to the same state of the parts in *apthæ*. He says, "I have sometimes seen *ulcusculæ* in the genitals without any symptoms, that would give reason to suspect anything of a venereal disease; and they have been at first troublesome by their intolerable itching, afterwards extremely painful, with a swelling of the labia; and I have found them exactly answerable to those *ulcusculæ*, which bear the name of thrush, and are by the ancients described and called by the name of *apthæ*." Hippocrates saw the same occurrence.

4th. There is a similarity among writers in the description and resemblance of the pustules, or ulcers; and like discrepancies, as to the actual state of the diseased parts. This must be noticed, as one investigates, and compares the language used in the delineation of the various phenomena of both complaints. For instance, Dr. Hale says, "nursing sore mouth commences on the edge of the tongue, with a hardened pimple." Dr. McGugin, of Iowa, and others affirm, that round whitish or yellowish vesicles, which become the foci of a diffused inflammation are first seen. Dr. Taylor, of Florida, describes the state of the parts thus: "The tongue is covered with small, white pustules, closely connected together." Others, because they do not have the opportunity to watch the progress of this malady in its earliest stages, attest that ulceration with an inflamed condition of the entire mucous membrane of the mouth is the exact appearance. Now, let us look at the description of common *apthæ*.

Dr. Wood describes them thus: "The vesicles are small, oval, or roundish; white, or pearl colored." They are first ob-

* See Boston Medical Journal, vol. 41, page 378.

served on the edge of the tongue. Andral divides them into three species; the popular, the vesicular, and pustular. Billiard into two stages. The first consisting of small, white milary tumors; the second of superficial ulcers. Gardien denominates them tubercles. Others say that pustules and ulceration are seen at one and the same time. These vesicles, says Dr. Condie, "enlarge and are surrounded by a circle of inflammation," just what happens in nursing sore mouth.

Again, the vesicles in both are often distinct, scattering, and sometimes numerous and confluent. When distinct in either affection the symptoms and ulceration are of a mild character, and usually confined to the mouth; but when confluent they assume a greater degree of severity and obstinacy. We will briefly condense the excellent description of M. Guersent, on this latter kind of apthæ, and then we can more readily see the points of comparison with, and the likeness to the disease in question, especially when we speak of its symptoms.

This species of apthæ is painful and obstinate, and not of frequent occurrence. At the Hospital de la Maternité of Paris, it is rarely, if ever seen. M. Cruveilhier never observed it while he had charge of that Institution. It begins with chillness, headache and fever, which often moderates without entirely ceasing, even when the vesicles are all developed. These vesicles extend from the mouth to the fauces, and are said to reach the stomach, producing severe diarrhœa, and abdominal pains, and from their severity, sometimes terminate in death. Food when taken causes anguish; and deglutition is more or less difficult by reason of the large number of pustules, ulcers, and surrounding irritation covering the roof of the mouth, tongue and fauces, "*Ces pustules sont quelquefois si nombreuses qu'elles parasait comme confluentes. Elles simulent assez bien l'éruption varioleuse dans le cas au elle occupe la bouche, le voile du palais, et une partie des fosses gutterales.*" Dr. Wood remarks, "This variety occurs most frequently in adults, and is said to attack preferably women in child-bed." What then is the difference between this kind of apthæ and nursing sore mouth?

Once more, the vesicles ulcerate in both affections, and the ulcers are of an oval form with now and then ragged edges; and over their surface is generally thrown a whitish or yellowish film. Often they are of a raw and inflamed appearance. Their size varies, but they are nearly the same in every respect. In nursing sore mouth, they are sometimes about as large as "half the size of a three-cent piece to that of a fifty cent piece."—(*Dr. Judkins.*) Dr. Hale states, "I have seen

considerable loss of the substance on the edge of the tongue." Dr. Hall relates an instance of aphthæ where a like circumstance was noticed. In some patients, several small ulcers seem to coalesce, and constitute one large ulcerated surface.

5th. There is a striking coincidence, as regards the kind of constitutions in which both complaints are found. It is confessed by all, that aphthæ are present equally among the feeble in health, as well as the most robust. When, however, they are seen in adults, they are more frequently among persons of a scrofulous diathesis, or those constitutionally delicate; in children, "among those of a relaxed habit with the predominance of the lymphatic system."—(*Condie.*) It is in this latter class of subjects that the disease is best studied, because aphthæ are oftener distinct and of a milder character in adults.

Nursing sore mouth also attacks chiefly those of a lax fibre, thin in flesh, pale, and of an anæmic appearance.*—(*Dr. Judkins of Ohio.*) Dr. Sumner, of Connecticut, thinks those inclined to phthisic pulmonalis, are its most frequent victims. Others believe it occurs oftener in persons of scrofulous habits. Dr. Backus says, that "women of a vigorous constitution and good general health are as subject to it as the most feeble." Prof. Ware, of Harvard University, writes, "I have not thought any particular constitution is more exposed to this complaint than another; but those women who have any exhausting causes operating upon them during pregnancy are most liable." It is the writer's experience that the disease seizes the most feeble in health, as well as the strongest. We know of one female of robust and plethoric habit, possessing, seemingly, all the lineaments of perfect health; vigorous in mind and body, and capable of great endurance, who has borne two healthy children, and, at both periods, was compelled to wean her child, or die from the prostrating effects of this complaint. The sister of this lady, equally strong and healthy, had also this soreness of the mouth.

It is not to be understood, that all persons whose constitutions are enfeebled will be attacked with an aphthous condition of the mouth, for this is contrary to experience. A large majority of women go through pregnancy and lactation without any touch of it. Its existence is only an exception to a general rule. Both aphthæ and nursing sore mouth attack whole families. If one is afflicted, another will be liable, although it may not be at the same time. We have noticed children of

* See N. Y. Journal of Medicine, vol. 14, January No.

the same parentage to be thus affected during gestation and lactation.

Thus far we have referred to a few of the more prominent resemblances of these two affections; let us now consider the supposed points of difference, for they are thought by many to be unlike.

1st. *In the color of the tongue, lips—the inside of the cheeks—the external appearance of ulcers and even the whole lining membrane of the mouth and fauces.* These are of “a peculiar red or deep pink color,” says Dr. Backus, and others. This is deemed a distinguishing mark or trait of nursing sore mouth. But, notwithstanding this, Van Swieten, and many other authors describe some kinds of apthæ, not familiar to females alone, and not dissimilar to the phenomenon above represented. Apthæ occurred in their practice “flame colored, yellow, livid, or even black,”* arising from and depending upon a difference in constitutional habit of the person affected.

In the next place, they are believed to be distinct, because nursing sore mouth is said to be a disease incident to women alone during the last stages of pregnancy, and the process of lactation, while apthæ are noted in almost all stages of life among males as well as females; the young as well as the old. If this distinction could be made to appear, it would go far to prove their dissimilarity; but here, unfortunately, there is not consonance of opinion among writers, some affirming one thing, and some another.

Dr. Backus is quite positive that there is a marked difference, and writes thus of nursing sore mouth: “It is in the first place confined to females, no man ever had it, or ever will; it attacks those who are nursing, or those who are advanced to the last stages of pregnancy.” Dr. Hale confirms this statement. Dr. Taylor remarks, “In an extensive practice of seven years, I have never met with a single case of sore mouth in man or in woman who did not give suck, which was in the least analogous” to the species now under consideration. But all observers, who have had equal opportunities to notice the peculiarities of both complaints, are not thus agreed. Dr. Knapp thinks it is not an affection belonging to women alone—“We have repeatedly seen men, and boys, subjects of this complaint; also girls as well as suckling women.”† Dr. Shanks, of Tennessee, says that at Memphis, chronic diarrhoea in humid miasmatic localities presents in males many of the general

* See Van Swieten's Commentaries.

† N. Y. Journal of Medicine, vol. 14.

symptoms of this sore mouth, accompanied with the peculiar raw, clean and red tongue, (sometimes an attendant) together with ulceration of the mouth. Dr. Ely, of New York, speaks thus: "It is believed that a similar affection is found in the male sex."

In this diversity of opinion, it is impossible to arrive at the true answer to this question, except by future observation. We can conceive, nay, it may not be improbable, that the view of Drs. Knapp and Ely may be correct, if gestation and lactation act as predisposing causes, only so far as they tend to bring the female constitution to a state favorable to the development of an aphthous condition of the mouth. We might infer from analogy, also, that this would take place, provided a like pathological condition could be induced in the male. Perhaps the reason why the disease has been judged to belong exclusively to females is its frequency with this class of persons. Their habits, and often unnecessary confinement, in secluding themselves from the invigorating and healthful influences of air and exercise strongly predisposes them to be its subjects. In addition, there are many depressing influences brought to bear on the naturally delicate female constitution; which males are entirely exempt from, or can more readily withstand; hence their more frequent immunity from this malady.

Doubtless the comparison might with profit be carried farther, but this much must suffice. The symptoms of aphthæ are not very fully delineated, as they exhibit themselves in adults, and it is for this cause we are unable to longer pursue the points of identity. Whenever they have been seen, they have been regarded as a local affair, or at least, only a complication of some other affection, and hence but little has been written thereupon. It is in works upon the Diseases of Children, that we find the most reliable descriptions of common aphthæ. We shall, however, endeavor to indicate other striking similarities as we proceed in the enumeration of some of the usual symptoms of the sore mouth of nursing women.

Symptoms.—Before the appearance of what constitutes the peculiarity of this complaint there is what may be termed the formative or irritative period.* The system is brought by a train of circumstances into a condition adapted to its existence. The digestive apparatus is enfeebled—assimilation imperfect; the functions of the liver are deranged; and the bowels constipated. There is often a vague uneasiness in the epigastric

* The same symptoms, as occur during this period, we have observed in common aphthæ.

region, attended with acidity, flatulence and abnormal secretions. "Vomiting, which is usually common in the morning during gestation, is seen not unfrequently after lying down at night." "In addition, one will notice a general restlessness, or malaise, tendency to low spirits, a feeling of lassitude," and debility, and indisposition to exertion of any kind. Some kinds of food create so much pain and distress as to require the administration of an anodyne. This was quite noticeable in a strong, healthy female, who came under our observation. In the meanwhile, the appetite is variable, but in a very large number of cases morbidly ravenous, and seemingly unable to be satisfied.

The disease is sometimes connected with, and indeed preceded by sore nipples, by an eruptive affection of the skin and especially the tarsi, and sometimes the corner of the lips, and external labia. There are not a great many cases, however, where these phenomena are observed.

Those who are accustomed to this complaint are aware of its approach by the loss of the sense of taste, especially that of salt. The food is destitute of its usual relish.* Dr. McGugin observes that even before its inception there is a sensation of sinking, and depression, together with prostration. The progress of the attack is usually gradual, and is marked by successive stages. But some have found a different experience. Dr. Backus, for instance, says, "the accession of the disease is often very rapid from apparent health. It comes on violently in the evening, while during the day there had been no approach of it." Others have not met with the same suddenness of attack.

The first prominent symptom which attracts the notice of the patient, is a scalding sensation, similar in feeling to that produced by hot fluids when taken into the mouth. In looking at the irritated part, one will find heat and inflammation of the mucous membrane. Sometimes a general soreness of a considerable portion of the mouth without the existence of vesicles or ulcers. This may continue for an indefinite length of time. Now and then is noticed a different state of things. Red spots on the sides of the tongue come forth, together with a few whitish vesicles. These may be distinct, or confluent. Accompanying these the whole lining membrane of the mouth, the lips and tongue are in a highly vascular, and in a congested state,

* Any one who has had aphthæ will bear witness that the same sensations obtain. In the case of the writer, he has had loss of taste, and the peculiar scalding sensation of nursing sore mouth, which we shall presently describe. Other medical men with whom we have conversed confirm this.

resembling in some respects the lips of patients in an anæmic condition, or rather those whose blood is not sufficiently oxygenized. The small capillary vessels are burdened with dark, venous blood. The tongue is often of a smooth, polished appearance, free from coat, slightly swollen, and "early in the attack along its edges may be observed little granular elevations, extremely sensitive." The sufferer complains of pain in some parts of the mouth, as "if a thorn were in the affected part." Little vesicles soon become the centre of an inflamed circle, which, when the least particle of food or drink, except of the blandest kind, touches, causes extreme anguish. The lymphatic system is unduly excited, and the salivary glands pour forth large quantities of saliva, often of an acrid nature. So severe is the disease in some individuals, that the lips become tumified, and over which are continually running the secretions of the salivary vessels.

If the vesicles be few, the disease is easily manageable, and will yield to suitable remedies; or at least will be kept in abeyance, allowing the mother to nurse the child. Oftentimes, a gentle cathartic operates to check or rather modify its character and limit its progress. On the contrary, if constipation predominates at any time, there will be an increase in the intensity of the symptoms.

The complaint, not unfrequently, unless under the influence of curative treatment, assumes a far different and graver aspect. Ulceration begins and spreads, especially in lax and strumous habits, over a larger surface. The vesicles multiply, and form, with their ragged borders on the soft parts of the mouth,—then pass to the fauces—into the posterior nares, along the bronchiæ, and involve the lungs in an irreparably diseased condition. As we have before said, they creep down the mucous lining of the œsophagus to the stomach, and then induce a new train of symptoms. The soreness of the mouth by this extension of ulceration does not abate one particle, but continues on with the same obstinacy.

When the ulcers reach the stomach, one will notice a slight tenderness of the abdomen in the region of the epigastrium; more prostration; swelling of the extremities; "a dark, crescentic circle under the eyes," and an anxious look of the countenance, which is often remarked in severe cases of nursing sore mouth. Now the suffering is great for the surfaces, if the ulcers are preternaturally endowed. Diarrhœa sets in and becomes an obstinate symptom. The discharges are free and copious, of a thin and watery consistence,—sometimes of a darkish color; and in more protracted forms, ash-colored, or inclined to light;

fermented and frothy. Dr. Judkins says that "floating flocculi, of a mucous appearance, may be frequently seen after a recent evacuation of the bowels." But the diarrhoea may not be persistent, for it often alternates with costiveness. In such instances, the soreness of the mouth is intensified with an increase in the depth and extent of the inflammation.

The exhaustion from this diarrhoea is often harassing to the patient, and next to the ulceration is one of the most troublesome symptoms of this affection. This, together with the want of sufficient nourishment, often debilitates to an alarming degree. The countenance, and in fact, the whole exterior of the patient, bear impress of the extreme severity of the lesion, which is thus warring upon the vitality of the system, and unless checked in its death-work, will terminate in hopeless recovery. The body becomes emaciated; hectic fever ensues, and if the person attacked has a predominance of the lymphatic system, or is of a "strumous diathesis, tuberculosis will be developed with cough, hæmotypsis perhaps," and other fatal symptoms close the scene.

While nursing sore mouth is in its incipient stages, there is often considerable feverish excitement, together with dryness of the skin, and an elevated pulse. The mind is irritable and despondent, and there is an undue excitement of the nervous system. Sometimes the disease passes from the acute to the chronic form—the fever subsides, and the appetite, unless diarrhoea is an attendant, is improved. When, indeed, any exhaustive drain is going on in the system, then, some febrile symptoms may remain to weary out the strength of the patient.

There are some cases of nursing sore mouth where it seems to terminate in confirmed anæmia. One will find in this class of patients, extreme paleness of the face and lips; palpitation; dyspnoea; loss of appetite; vomiting when the least food is taken; throbbing in the head; vertigo on assuming the erect posture; intolerance of light and sound; wakefulness; starting during sleep; paleness; transparency of the ears and fingers; great and alarming oppression about the chest; great nervous irritability, and scanty urine with a whitish sediment. It is needless to add, that these are extremely critical cases.

In this connection, it may be as well stated, that a large majority of cases are not accompanied with such virulence, especially if under the control of judicious treatment. But whenever ulcers occur, it is a cause of solicitude, and needs, especially in some constitutions, the fostering care of nurse and

physician, lest the complaint proceed to uncontrollable bounds. Some persons are so predisposed to this affection, as to never go through a single lactation without being attacked. Even when a female, once affected, has not borne children for quite a number of years, and on becoming pregnant, it will again appear, and so on to the end of child-bearing. The mucous membrane of the mouth in some tends strongly to commence a new ulceration and derangement, however slight the exciting cause. Again, there is another thing worthy of note. In the more stubborn cases, when the patient is unable to take scarcely any food, on account of the soreness of the inflamed vesicles, and ulcers, still the secretion of milk continues abundant. The child is generally healthy, and apparently derives sufficient support from its mother, for growth. Indeed, in some persons, we have remarked that where the stomach could not retain its food; the desire for aliment almost destroyed; diarrhoea exceedingly exhaustive; and the patient seemingly not having sufficient strength to raise her head from her pillow; even then the infant did not apparently suffer from the parent's debility. But there are instances where, if this disease is permitted to continue for some weeks, the secretions become morbid, the milk fails, and the child will be materially affected by a too long continuance at the breast. Its digestive organs will be impaired, or some serious difficulty follow.

Causes.—One of the strongest predisposing causes of nursing sore mouth is a naturally delicate and enfeebled constitution, accompanied by laxness of muscular fibre, and a deficiency in the strength and activity of the vital powers. Whatever depressing influence, therefore, that may operate to deprave the system, and weaken its hold on life, will contribute to the existence of this disease. Persons, then, who have often been bled, or confined to low and indigestible diet, or weakened by continued diarrhoea, or some exhaustive sickness, are well fitted to be its subjects. Anxiety, alarm, or any mental disturbance, will sometimes indirectly produce it. Derangement of the alimentary canal may be regarded as an occasional cause, for, we have seen that the complaint is often preceded by such derangement; and in its treatment we shall find that the state of the *primæ viæ* influences to a great degree the course and activity of the irritation in the mouth.

In addition to these, and closely connected therewith, are other indirect or disturbing causes which exert an unhealthy influence over the digestive and assimilative organs. These are a want of sufficient exercise, confinement in close and ill-ventilated houses, some particular kinds of food when the

stomach is in a weakened state. We have met with one patient, where molasses gingerbread would excite all the symptoms of nursing sore mouth. Dr. Watson, in speaking of aphthæ, says: "They seem to depend upon the mere derangement of the stomach. A nobleman, who is a *bon vivant*, can never eat shell-fish without finding within two hours afterwards, that his mouth is full of aphthæ. Even lobster sauce will serve him thus."

But, as we have before intimated, all the above things being combined, do not affect some individuals, as far the greater proportion of females pass through all the stages of the puerperal state with perfect immunity.

There are other causes about which there is not much dispute that seem to have an agency in generating this malady. In localities where "marsh miasm" prevails, this operates upon the system to invite into activity this sore mouth. For proof of which, we refer to the article of Dr. Shanks, *American Medical Journal*, vol. 4, 1842. The facts related by this gentleman would certainly indicate, that miasma was a powerful predisposing cause, or how can it be explained, that formerly "few women escaped the disease in some degree during lactation," but now, since the country around Memphis has been more exempt from intermittents, "this affection, has become more rare, attacking those chiefly unacclimated, of feeble health and of leuco-phlegmatic temperament."

In addition, there are gestation and lactation, which are confessedly causes that have great power over some female constitutions, by their capability of keeping up in the system a state of irritation. Some who regard nursing sore mouth as a peculiar affection, find its principal cause in these two conditions of the system. This hypothesis, for it is nothing more, would really make no difference between health and disease. It would create gestation and lactation at the same time, physiological and pathological conditions. These states of the system may predispose to this affection, but nevertheless, are natural states, and analogous in this respect to diversities of natural constitution and acquired habits of body; and no more than the latter constitute a pathological cause. We are brought to affirm, that a state of health is a state of disease. There is no escaping the paradox except by saying that lactation is a diseased condition. Besides it is well established, that these two combined do not produce this sore mouth in nine-tenths of those females bearing children—a fact which goes to disprove the position taken.

But it is objected to this view of the subject that this malady

is incurable in the hands of some, except by weaning. This objection does not accord with the general experience of physicians, for some have found that it can be cured by the use of proper remedies. And it is well known, that there are quite a large number of cases, that either are curable, or at least, are not of so grave a character as to require the suspension of nursing. It would be indeed surprising, if there were no stubborn instances of this malady, that hold out against every means of treatment; such is the fact with other diseases, and why not with this? But, then, it cannot be said, if it is sometimes obstinate, that the disease is peculiar to lactation, for other ailments are modified by these natural states, or conditions.

But, further, if this is a correct solution of the phenomena of nursing sore mouth, why is it, that it is always seen in every subsequent pregnancy and lactation of the same individual, and never at any other time. Our answer is this: lactation and gestation serve as exciting causes to bring the disease into being, just as the "lobster sauce" in the nobleman, spoken of by Dr. Watson, did in producing apthæ. The same principle is involved and the same explanation can be given to both.

Some, in searching for the nature of nursing sore mouth have supposed it was in some way related to anæmia. Now that these two diseases are really different, can, we think, be sufficiently demonstrated. The one may run into the other, but they depend for their existence upon different causes. There is no doubt, but that anæmic persons may be more liable to this sore mouth, than persons perfectly healthy. They are just as subject to other diseases, as they are to this. But it cannot be said, on this ground, that anæmia is the pathological cause. The fact that this latter complaint occurs as an epidemic, and is known to be long absent from certain localities where it once frequented, while the causes of anæmia remain; and the fact of its non-occurrence at all, in some countries, and not in the practice of physicians, like Dr. Dewees (whose practice cannot be reasonably supposed to have embraced no cases of weak, relaxed, anæmic females), totally disparages the idea of anæmia in any sense constituting the essential, or pathological cause.

Others have thought that this disease was occasioned by a loss of some particular principle of the blood. The small number of females subject to this complaint is scarcely reconcilable with this supposition. Then, we could not exempt from the pernicious influence of such a cause, the vigorous in health and

plethoric; and with still more difficulty can we afford immunity to those strongly disposed from natural delicacy of constitution; and superadded anæmic, exhausted, and debilitated state of the system—many of whom, nevertheless, escape the disease altogether. This could not be possible were the foregoing hypothetical cause the real and essential pathological condition.

A modern theory has been started by Dr. Knapp, denominating this malady "land scurvy." This gentleman grounds his reasons therefor on the treatment generally pursued for its permanent cure. We cannot agree with this hypothesis, because an apthous condition of the mouth cannot be traced to such a source, as is universally admitted to be the cause of scorbutus, viz: a deficiency of vegetable diet, or a surplus of salted provisions. On the other hand, there is not one case in a thousand, where there can be any deficiency among women in this kind of food. We have known females, who are in the daily use of a generous vegetable diet, wanting in no single ingredient to constitute it essentially anti-scorbutic, and yet these very persons were sorely afflicted with ulceration of the mouth during gestation and lactation. In this connection we would remark that "the peculiar affection" of Dr. M. Hall, to which the writer refers in support of his position, no more answers the description of scorbutus, as given by standard authors, than the several kinds of *Mimosa* of Dr. Hall does to that of nursing sore mouth. It has none of the antecedents of scurvy.

Rejecting, then, these several theories as constituting the real, or essential cause of this affection, we are led to inquire, what is its nature, or what is the disease itself? We answer, that with our present information on this subject, we must pronounce nursing sore mouth and apthæ alike. Upon their physical histories we cannot affirm them different. Their resemblance, both in their rise and progress, would tend to show, with no small degree of probability, their identity. This identity, however, resting upon this theoretical aspect of the case (which seems to us, nevertheless, the just interpretation of all facts known relative to this disease), may be held provisionally, until it be tested by future investigation, as regards the physical distinctions of the disease, by which such distinctions can be established.

We regard this disease as local in its nature, occurring as an epidemic and sporadically, just as all epidemic diseases do. It is a frequent complication of idiopathic fevers and disordered states of the digestive organs. But the reason why vesicles

and ulcers should be first seen in the mouth, or elsewhere, we are unable to explain. The observations of Dr. Hale upon this point are not inappropriate here. He says: "From the great liability of the stomach to be disordered in this complaint, and especially from the fact already mentioned, that those remedies only are of permanent benefit which act upon the stomach, it should seem that it is chiefly through the intervention of that organ that the disease is produced. We know of no direct sympathy between the parts in which this affection first appears and the mammæ; while the stomach is very closely connected with the mouth and fauces on the one hand, and with the uterus and all other organs associated with it on the other."*

Treatment.—We propose to give a synopsis of the treatment generally adopted by writers upon this subject, before we go on to speak of what we deem the best means of medication. It will be seen as we pass, that there is an agreement in many respects in the kinds of medicines used, also in the recommendation advised.

Dr. Hale thinks emetics useful in some cases to produce a powerful general effect upon the system. His chief reliance, however, is upon tonics; those which give vigor to the stomach, such as some of the preparations of bark, quinine, porter and ale. When porter stimulates too much, he gives a fermented solution of tartaric acid and sugar—an agreeable drink, as it contains a large quantity of carbonic acid.

Dr. Backus, after trying various doubtful remedies, has hit upon the following mixture, consisting of carbonate of iron, rhubarb, aloes, ipecac, Sap. Hispan. This is made up into pills; two of which is given twice or three times a day. This gentleman has found this preparation successful, with astringent washes, in many cases.

Dr. Shanks,—“In the most robust, and plethoric, the feverish excitement must be reduced by bleeding,” followed by alteratives and laxatives, such as blue moss, calcined magnesia, and rhubarb in small doses. In those of more feeble health, when there is but little feverish excitement, he prescribes as a tonic and laxative, a combination of blue mass, ipecac, carb. ferri., and aloes, in proportion to suit the case under treatment. Dr. Christian, one of the oldest physicians of Memphis, Tennessee, places his trust in small doses of ipecac alone.

Dr. Taylor does not depend upon the “partial success of

* It will not be expected that the writer should here go into the nature of common apthæ, for this has been done in extended treatises, although there is much more of theory than fact in many of the writings upon this class of diseases.

tonics," but has given, with benefit, broken doses of sulphur and cream of tartar, as the only internal treatment. In patients exhausted by the effects of the disease, he thinks these should be carefully prescribed, perhaps only for costiveness; and, in addition, he advises tonics, such as cinchona, elixir vitriol, porter, etc.

Dr. Ely prescribes an alterative course, and uses both for a wash for the mouth, and internally "ido-hydrargyrate of potash." His confidence in the efficacy of this medicine increases with its use. We have met with other physicians who praised its virtues.

Dr. Brainard treats his patients with a general course of tonics, nourishing and abundant food; good beer, ale or porter; iron, and vegetable bitters. As a local wash—fuming muriatic acid applied to the ulcerated parts.

Dr. Knapp thinks the disease to be of a scorbutic nature, and addresses for its cure such medicines and such diet as are usually considered anti-scorbutic.

Dr. Judkins, after the administration of bi-carbonate of soda to correct the acid and acrid secretions, gives the the following formula :

"R Nitrate of silver,	gr. x.
Denarcotized opium,	gr. iv.
Gum camphor,	gr. v.
Di sul. of quinine,	5 i.

M. ft. in pill. No. xxx; one to be taken three times a day."

This pill has succeeded well in a large number of cases.

Dr. Hall of Tennessee.—A nutritious diet; exercise adapted to the strength of the patient; and attention to the healthful functions of the skin. Quinine, chalybeates, the mineral acids, and cod liver oil, are chiefly relied on.

Dr. Ellsworth, of Connecticut, gives bark with lime water; carbonate of iron, soda, and particularly porter. "Almost everything tonic is useful.

Dr. Holt thinks hydriodate of potash in five-grain doses, three times a day, as near specific as anything can be.

Dr. J. Y. Ware finds Griffith's myrr. mixture an infallible remedy.

Prof. R. D. Mussey, of Cincinnati, in a letter to us, says: "I have witnessed very satisfactory effects from the internal use of cubebs rubbed up in sugar, and sometimes with carbonate of ammonia mixed with syrup or molasses into a confection. A medical friend here in whom I have confidence, has seen four cases cured under the use of cod liver oil."

Such, in brief, is the method of treatment pointed out by physicians, who have written upon this subject. Our experience has been, that the treatment should be judicious, rational, and founded upon scientific deductions. We can perceive no reason why an exclusive line of practice should be here pursued, while a different policy is carried out in other diseases. It is, then, impossible to lay down prescribed rules or formula for all occasions; and if this could be done, it would subject the science of medicine to no higher authority, than the merest tyro in quackery can boast of his pretended art. Such a course would require that the disease should be always the same; that there be no variance in the manner of attack, and course of the complaint, but such is not its ordinary history. Physicians will acknowledge here as elsewhere, that different constitutions require different medical means to restore to health. Tonics may best serve in one class of subjects, while entirely opposite medicines will better succeed in another instance. No two cases are precisely alike, and therefore, not calling for similar modes of treatment.

The first thing that should be attended to is the state of the stomach. If there be acidity, small doses of magnesia, or bicarbonate of soda, once or twice a day, or sometimes the vegetable or mineral acids will serve to correct this state. If constipation predominates, some mild laxative, such as a moderate purge of calomel and soda; seidlitz powder; castor oil; sulphur, and cream of tartar will avert this difficulty. A gentle evacuation of the bowels is desirable in the earlier stages of this complaint, because it exerts a curative influence over the sensitiveness of the ulcerated surface. A prominent point in the treatment is to keep the bowels, especially in the commencement of the disease, in a soluble condition.

Active and irritating purgatives should never be administered, on account of the liability of the mucous membrane of the intestinal tube to ulceration, and severe diarrhoea.

The bowels being cleared, means should be directed to subdue the feverish excitement, existing in some patients. Generally there is no difficulty in effecting this, unless there be some constitutional irritation occasioned by the existence of some other disease lurking in the system. There are not many cases where venesection would be advantageous; it might be indeed dangerous to practice it; still we have no doubt that it might be tolerably well borne in the more robust and plethoric, and even prove profitable. But as a general rule it is contra-indicated, and will rarely be found useful. It is far better, in uncomplicated cases, to use other medicines which eminently possess the

qualities of lowering the pulse, and allaying inflammation. Sometimes a gentle emetic, especially when the stomach is disordered, will be serviceable. For this, ipecac. is far the best.

After the feverish state of the system has subsided, or even, when there is slight exaltation of the pulse, we have given internally the following mixture. This has been used successfully for the last nine years, both in apthæ, and nursing sore mouth, and with like results. Its virtue, doubtless, lays in its tonic qualities :

R	Myrr.	3j.
	Carb. Potass,	gr. xxx.
	Rose water,	℥ iij.
	Sul. Ferri,	℥ iss.
	Spts. Lavender comp.,	℥ vss.
	Sugar,	3j.

Mix and compound in the same manner as the *mistura ferri composita* of the U. S. Dispensatory.

This combination is similar to Griffith's mixture, containing more of the spirits of lavender, and less of rose water. We have given a tea-spoonful of this three times a day, and at the same time, a wash of sulphate of zinc, six to eight grains to an ounce of water, for the mouth. If the physician is called early in the disease, there is no compound more serviceable.

But we have not been governed by this prescription alone. In the more feeble subjects, other tonics are of importance. "Quinine alone," remarks one writer, "in debilitated constitutions, in which there is a disposition to the disease, or after a severe form of the disease has been cured, and is disposed to return, will exert a great influence." There are instances, after the acme of the inflammation is past, where it seems to stay the progress of the ulceration, and render the mother able to nurse her child. Here, we would remark that almost everything tonic is beneficial. Quassia, iron in some of its preparations, iodide of potassium, arsenic, manganese, etc., have been used with success. When the mouth is largely involved, care should be had that all medicines should be as palatable as possible, free from all irritating properties. It is desirable that they be prepared without the use of alcohol.

As the disease is essentially local in its nature, one would suppose, that local applications would always heal the inflamed ulcers of the mouth; but sometimes the contrary is true. They not unfrequently have but a feeble power over the ulceration. Sometimes they seem to exert a palliative influence, and occa-

sionally produce permanent good. They are usually conjoined with medicines directed to the stomach. Those generally employed are nitrate of silver, sulphate of zinc, tannin, decoction of logwood, etc.

Diarrhœa.—In the treatment of this symptom one should see, that the food is unirritating at the onset. When the evacuations are green, or of a sour smell, magnesia, or a mixture of this with rhubarb, may be administered; or, instead of this, pure castor oil, with some astringent, may be substituted. Prepared chalk; fluid magnesia; some of the vegetable astringents, such as kino, catechu, ratanhia, or tannic acid, can be taken with profit. We have seen the use of creosote, six to ten drops to four ounces of water, check the discharges when everything else failed.

Friction over the abdomen; flannel rollers about the body; rubefacients, especially if there is pain; anodyne enemata; and warm clothing, are highly important adjuvants.

But, as we have before intimated, there are some cases which seemingly reject all treatment. The physician is called too late to stop the progress of ulceration, and the exhaustive diarrhœa, or else there is some other complication, which thwarts all the appliances used to arrest the disease. To continue nursing will keep up a constant irritation in the system. What, then, is to be done? Weaning the child will almost always cure the mother, if seasonably undertaken. But there are instances where resort to this is inconvenient, to say the least. The health of the child may make this objectionable, and the circumstances of the patient may render the employment of a wet nurse impossible. In such instances, we must balance the risk taken, and in a good constitution, nursing may be longer continued. But where there are any indications of exhaustion, or an anæmic state of the system, a regard to the health of the mother should be paramount, and she should give up nursing at all hazards. This is not unfrequently the important point of the treatment in grave cases to determine when weaning should be insisted on.

"The circumstances which require that nursing should be suspended, are not merely the degree of soreness of the mouth," for this alone will not always call for weaning. When there is a violent diarrhœa, copious and light colored; phosphatic urine; great emaciation; nervous irritation; paleness of the lips and face; palpitation; dyspnœa; loss of appetite; vomiting; throbbing in the head; transparency of the ears and fingers; the patient is in danger of anæmia, and the child

should be weaned. Even then, it will be difficult sometimes to save life.

In a majority of cases, however, there is no such danger, and, although weaning is advisable when circumstances admit it, it is not indispensable, and women worry through after much exhaustion and suffering, and after all is over, their health does not seem to be permanently injured thereby. As a general rule, nursing should never be persisted in, when remedies are inefficacious to stop the course of the disease. The length of time which one must wait to test the inefficiency of remedies must of course vary according to the urgency of the symptoms.

Diet.—Attention to the diet is indispensable. When the condition of the patient will permit, it should be mild, generous, and of easy digestion; such as a good supply of fresh, tender animal food; milk; milk-porridge; rice; eggs, and good vegetables. Ale and porter will assist digestion, and their use cannot be well dispensed with. Sometimes broths and soups do not disturb the healthy operations of the stomach. Food of an indigestible nature should be prescribed, as it will produce only evil.

During the existence of this complaint every effort should be unceasingly made to prevent the mind from reacting injuriously on the disease. Hence the importance of regular exercise in open air; relaxation from care; and agreeable mental occupation. The patient should have all the amusement her strength will permit; for nothing in our experience is better calculated to restore the exhausted energies of nature and carry on the individual to her wonted health.

Hygienic Measures.—There is much that can be done to prevent the recurrence of this apthous condition of the mouth. Females, from a false modesty, are too apt to shut themselves up secluded from the world during the last stages of pregnancy. The consequence is, the evils of dyspepsia come upon them, the system is led into a state of irritation, and they are soon fitted for the development of disease. Avoid, then, by all means, such things. Exercise frequently in open air. Keep the bowels in a soluble condition. Let the food be simple and nutritious. Employ the mind upon objects that will interest, rather than upon the annoyances of gestation, and in fine, let there be a free use of everything which can amuse and make the patient cheerful.

To recapitulate: from the discussion of this subject we arrive at the following conclusions:

1st. Nursing sore mouth is not a *nova pestis*.

2d. It is not indigenous to this country.

3d. It is often of an epidemic character, and, therefore, governed by the same laws as govern other epidemical diseases.

4th. It is not anæmia, nor is it occasioned by the loss of a particular principle of the blood; nor can it be scorbutus; but most probably the disease in question is apthæ of a severe and obstinate form.

BOOK AND PAMPHLET NOTICES.

I. **MANUAL OF BOTANY.** A complete Flora of the Northern States east of the Mississippi, including Virginia and Kentucky. By ASA GRAY, Professor of Natural History in Harvard University. With six plates, illustrating the genera of Ferns, etc. P. 606. Published by S. C. Griggs & Co. Chicago, 1859.

II. **FIRST LESSONS IN BOTANY AND VEGETABLE PHYSIOLOGY.** Illustrated by over 360 wood engravings, from original drawings, by Isaac Sprague. By ASA GRAY. Chicago, 1859. P. 236. (School and College editions).

These two works constitute but one series; the latter being introductory to the former. They are intended to enable the student, with the aid of a suitable instructor, to acquire a thorough practical knowledge of the science of botany, and to furnish him with such elementary notions of the structure and physiology of plants, as will enable him to understand the uses of their different parts.

From the examination which we have been able to give them, they seem entirely to answer the end for which they are prepared. The "Lessons" are clear, systematic, and illustrated in such a manner, as to be readily comprehended by the youngest beginner in botany. The manual is full, without redundancy, and seems quite complete. It is arranged according to the "natural system" of De Condolle, and has an "Analytical Key to the natural orders, by which the student may refer each plant to its proper family without difficulty."

Prof. Gray's works on botany are standards in many of the higher schools and colleges, and, if any further guarantee of

their value be needed, the names of Professors Torrey, Hitchcock, Silliman, Agassiz, and others, furnish all that can be required under this head.

Those who may desire works on this science, whether for schools or private use, cannot do better than to adopt them.

We wish, however, to seize the occasion presented by the notice of these books, and the opening of spring, to say a few words on the value of the study of the vegetable kingdom to all educated persons, as well as to physicians. In a strictly medical point of view, we should have little to say under this head. We have no expectation that any new plant will be discovered, or a new principle in an old one, which will supersede opium, bark, camphor, etc., although it is likely many useful trees are as yet but little known. Neither are we of the belief that the medicinal action of a vegetable substance is better understood, from knowing to what particular genus and species the plant from which it is derived belongs. Having ourselves collected many plants in our student days, and taken doses of nearly all of them, to observe their effects, we may claim to speak from some experience, on that head.

But, in a physiological, hygienic, and æsthetic point of view, there is scarcely a study more useful than that of the vegetable world; none more pleasing.

1. *Physiology*.—The cryptogamia are found in such close connection with the infusoria, that it is evident the development of both is favored by the same circumstances. The analogy of the leaves of plants to the lungs of animals is familiar. The following remarks on the movements of plants will be read with interest:

“The stamens of the Barberry, when touched at the base on the inner side, as by an insect seeking for honey, or by the point of a pin, make a sudden jerk forward, and in the process throw some pollen upon the stigma, which stands a little above their reach. In many blossoms the stamens just at the proper season slowly approach the stigma, and after shedding their pollen, recede, or wither away. In such cases, we plainly perceive that a useful end is subserved. But, what shall we say of the Venus' Fly-trap of North Carolina, growing where it is

always sure of all the food a plant can need, yet provided with an apparatus for catching insects, and for no other special use that we know of, and actually capturing these expertly by a sudden motion, in the manner already described." By what mechanism is motion effected in organized tissue, where there is no muscular fibre?

We know not, and this is but one instance of numerous inexplicable phenomena connected with the simplest forms of life.

2. As the vegetable furnishes the material by which the animal kingdom is fed, the preservation, increase, and cultivation of plants becomes an object of the first importance.

Commerce, industry, and the useful arts are promoted by every advance in our knowledge of the laws of vegetation.

3. It is the province of vegetation to purify the atmosphere and water by absorbing carbonic acid and other products of animal life, and by giving out oxygen, so that, however prolific the animal creation might be, the vegetable keeps pace with it.

4. Such being the natural relations of animal to vegetable life, it follows that the study of plants is naturally adapted to the faculties and wants of man. The curiosity of the child is drawn toward the various forms of trees, leaves, and flowers, and nothing tends more to give a healthful direction to the thoughts than the encouragement of this interest, by pointing out such facts as are most easily understood, and giving such explanations of familiar things as are suited to the capacity of children. Flowers and plants should be among the attractions of every home, as they tend to keep children from those vagrant habits and unsafe associations from which it is so difficult to preserve them. To love flowers is better than to be precocious, sometimes even better than to be the smartest child in the school. To the grown man, this taste is often a resource against care, anxiety, disappointment, and misfortune; giving a charm, always fresh to the face of nature. To the old it is a precious resource, and a means of retiring gracefully from those pursuits no longer congenial to the latter stage of life. The love and study of plants is to be classed among the hygienic influences of the soul.

Florists and botanists are not often found among the insane; they are charming companions, and safe friends, like the flowers and trees themselves.

There is, in truth, a much more strict alliance between man and trees than the thoughtless might suppose. Fancy, for a moment, the earth without vegetation, and you will feel how much of society there is in the presence of forests. Man at first was at war with all other animals and with his fellows, but found food, shelter and clothing in the vegetable world. Trees, like men, have characters peculiar to each; some are bountiful, and give fruit, useless to themselves, and destined manifestly for the wants of man; others are ornamental, formed to delight the eye. Some are solemn, like the pines which crown the mountain side, lifting their tall heads, and raising their arms to heaven, as in perpetual invocation, while years, generations and centuries pass by.

Some are medicinal, and yield opium and quinine, precious gifts to man. Some are poisonous, and destructive to animals, and to other plants. Emblems of strength, of courage, of glory, of pity, of joy, and of mourning; the oak, the pine, the laurel, the orange, the willow, and the yew, are associated with all the events of man's life, from birth to burial. "Woodman, spare that tree," appeals to the heart and instinctive feelings of man; hence its universal popularity. Nothing fictitious or artificial could ever be so generally felt and understood.

Poets, writers of every class, have always been fond of introducing allusions to flowers into their works. Few of them have done so successfully. Shakspeare and Shelley only knew the use of flowers. Chateaubriand, in his stately prose poetry, speaks of them in words not unfit to be remembered:

"The flower giveth the honey; she is the daughter of the morning, the charm of the spring time, the source of perfumes, the ornament of virgins, the love of poets. She passeth quickly, like the life of man, but sheds her leaves gently upon the earth. Among the ancients, flowers crowned the cup of the banquet, and the white hairs of the sage; the early Christians covered with flowers their altars in the catacombs, and the martyrs of their faith; and even now, in memory of these

antique days, we place flowers in our temples."—*Genie du Christianism*.

Finally, the study of flowers is a "medicine for the mind diseased." Men in modern society do not die of old age, nor of disease. Before the fatal attack, anxiety, ambition, disappointment, remorse, and loss of hope, have poisoned the springs of life. It is a consumption of the soul, not of the body; and the good physician, instead of dosing the unfortunate with drugs, should point out to him, and lead him to the contemplation of those natural objects, whose study pleases without agitating, and satisfies without exhausting.

There may be regained, if not too late, that quiet and health, which the too eager pursuit of wealth and station tends to impair and destroy.

Let the young physician, by all means, study the habits and physiology of plants, if he does not become a botanist.

III. VENTILATION IN AMERICAN DWELLINGS. With a series of diagrams, presenting examples in different classes of habitations. By DAVID BOSWELL REID, M.D., F.R.S.E., etc. To which is added, an Outline of the Progress of Improvement in Ventilation. By ELISHA HARRIS, M.D., late Physician in chief to the N. Y. Quarantine Hospitals, etc. New York: Wiley & Halsted, 1858. P. 124. From S. C. Griggs & Co., 39 and 41 Lake street, Chicago.

This work is not, strictly speaking, a professional one, and yet a knowledge of the principles and facts which it contains is essential to the physician, as to every one who builds or occupies a house. If you wish to know what is the best way of warming a house, consistent with comfort, health and economy, this is the work to read, or to present to your architect, before he draws your plans.

SELECTIONS FROM FAVORITE PRESCRIPTIONS OF AMERICAN PRACTITIONERS.
By HORACE GREEN, M.D.

This is a small volume of about 200 pages, made up from selections of favorite prescriptions, which Dr. Green has collected from American physicians.

These formulæ are arranged under the proper heads, and many, no doubt, are useful, and capable of fulfilling the indication for which they are intended.

We would caution the young practitioner, however, from using any particular formulæ, for a certain disease, simply because the diagnosis has been made out, and a certain one recommended.

From S. C. Griggs & Co., 39 and 41 Lake street.

FIVE ESSAYS. By JOHN KEARSELY MITCHELL, M.D., etc. Edited by S. Weir Mitchell, M.D., etc.

The subjects of the different lectures are as follows:

I. Essay on the Cryptogamous Origin of Malasions and Epidemic Fevers.

II. An essay on Animal Magnetism, or Vital Induction.

III. On the Penetrativeness of Fluids.

IV. On the Penetrativeness of Gases.

V. On a new practice in acute and Chronic Rheumatism.

The publication of this volume at this time seems to be rather a mark of respect of a son to a father, than of containing anything new or interesting in medical science, and, therefore, is not a fit work for criticism. The theories advocated in some of the lectures have been set aside by the advance of science, while that of others has been confirmed.

The latter is especially true in regard to the passage of gases and fluids through animal membranes.

To the many friends and former pupils of Professor Mitchell this volume will be eagerly sought after, at least as a memento of their former teacher and friend.

To be had at S. C. Griggs & Co., 39 and 41 Lake street, Chicago.

EDITORIAL.

TO OUR PATRONS.

Our thanks are due to those subscribers, who have so promptly complied with our request to forward the amount of their subscriptions. Their promptness confirms us in the belief that this journal will receive a generous support. To those still in arrears, we respectfully renew the request already made, to forward the amount due.

We have received a number of letters, complaining that money formerly sent has not been credited. We have no other guide, except the books as they were delivered to us, but all moneys sent will be credited as soon as the fact is known to us.

Any persons who have forwarded money by mail, and who are not credited, are respectfully requested to give us early notice.

CONVENTION OF MEDICAL TEACHERS.

This body assembled, in pursuance to a call, met at Louisville on Monday, May 1. We subjoin an abstract of its proceedings.

About twenty-one medical colleges, less than one-half probably, were represented.

Among those not represented may be noted the medical department of Yale College, all the schools of New York, Philadelphia, New Orleans, and the University of Nashville.

These, the largest institutions of the country, did not wish evidently to recognize any authority of the Convention, which sending a delegation might be construed as doing. Others, opposed to recognizing any action as binding, thought it still best to be represented. Among these was Rush Medical College.

The schools which expected to make capital out of the action of the Convention were fully represented. The report shows but imperfectly the spirit of the proceedings. It may be said, without danger of going too far, that a large part of the schools represented evinced a determination not to permit so change-

able a body as the National Association to *prescribe* and *enforce* the terms on which they shall confer degrees. All not represented may be considered as either protesting against such an assumption, or as regarding the attempt as not of sufficient importance to deserve notice.

This abstract is unavoidably deferred to the next number.

In reply to some questions by the editor of the *Ohio Medical Journal*, we beg to state that, in the notice of M. Flouren's book, we only gave the conclusions of the author, without intending to support or dissent from them. The book in itself, and on account of its authority, seemed of sufficient importance in a physiological point of view, to justify a notice.

MISCELLANEOUS MEDICAL INTELLIGENCE.

SURGICAL MATTERS—OVARİOTOMY.

Prof. Pope, of St. Louis, has recently reported four cases of ovariectomy, 2 fatal and 2 recovered.

Prof. Hamilton, of Columbus, reports 2 cases; 1 successful, 1 fatal.

Prof. H. states, that of 24 cases which have come to his knowledge, of operations performed in Ohio, 13 were fatal and 11 successful.

Dr. W. L. Atlee, in 1851, reported to the American Medical Association a synopsis of 222 cases of ovariectomy. Of these,

	Recoveries.	Deaths.
52 were of the minor section,	39	13
153 " " major "	95	58
17 Unknown,	12	5
	146	76

Of the 222 cases, 57 could not be finished—of these, 45 recovered, 12 died.

The Academy of Medicine, in Paris, discussed the subject of ovarian cysts in 1856 and 1857. They were almost unanimous against ovariectomy, Cazeau alone being in favor of it.

They were equally unanimous in favor of injections of iodine, although admitting that it could only be successful in the unilocular form.

Prof. Miller, of Louisville, recently published an excellent article in the *American Journal*, which seems to be intended as a reply to the attack made in the Academy on the operation. The views of Prof. Miller are eminently just. He has himself performed the operation twice, with success. Still there are three things to be said in palliation of the extreme view taken by the Academy:

1. The operation has been abused: a number of cases having been operated, where it was easy to have determined that no tumor existed.

2. The constitution of the French and other women on the Continent are not as robust as that of the women of this country. This is owing, in part, to the nourishment of the laboring classes there being insufficient, and in part to a cause little suspected, viz: that animal life is less vigorous there than here. We have noticed this in regard to frogs, pigeons, rabbits, etc., which we have used for experiments in both places, and Dr. Brown-Sequard confirms this view.

3. Since the mania for ovariectomy has become so pressing, the palliative means, and particularly the injections of iodine, have been entirely neglected. This is an error. In cases of single cyst it is a safe and efficient remedy.

Prof. Miller attributes the performance of this operation to Dr. Ephraim McDonnell, of Ky., in Dec., 1809. This, if correct, is a national honor which ought not to be forgotten.

MEETING OF THE DE WITT COUNTY MEDICAL SOCIETY.

The Society met in annual session at the office of Dr. Goodbrake, in Clinton, on Monday, the 4th day of April, 1859, at 10 o'clock A. M. Present, Drs. John Wright, T. K. Edmiston, John McHugh, W. W. Adams, B. S. Lewis, John Tyler, Z. H. Madden, C. Goodbrake, H. Noble; also, Dr. R. G. McLaughlin, of Heyworth. Dr. Wright, President, in the chair. The Sec-

retary being absent, Dr. Goodbrake was appointed Secretary pro tem.

The minutes of the last meeting were read and approved.

On motion of Dr. Goodbrake, Dr. R. G. McLaughlin was elected an Honorary Member of this Society. The Doctor thanked the Society in a very handsome manner for the honor conferred.

The following gentlemen were elected officers of the Society for the ensuing year :

President, Dr. B. Lewis,

Vice-President, . . . Dr. D. K. Edmiston.

Treasurer, Dr. John H. Tyler.

Secretary, Dr. John McHugh.

Censors, Drs. C. Goodbrake, John Wright, and Mr. W. Adams.

Drs. John McHugh and J. H. Tyler were elected delegates to the American Medical Association.

Drs. John Wright, C. Goodbrake, W. W. Adams and J. K. Edmiston were elected delegates to the Illinois State Medical Society.

Dr. Wright, the retiring President, delivered a very excellent valedictory address, on the subject of tobacco ; which was well received, and the subject discussed by most of the members present; and the Secretary ordered to furnish a copy of said address to the *Chicago Medical Journal*, for publication.

John A. Edmiston, medical student, read an essay on the action of medicines, which was ordered on file.

On motion, the Secretary was ordered to furnish a copy of the proceedings of this meeting to the editors of the *Chicago Medical Journal*, with the request to publish the same.

On motion, the Society adjourned, to meet in quarterly session, at Waynesville, on the first Monday in July next, at ten o'clock A.M.

JOHN McHUGH, M.D., *Secretary*.

MEDICAL CONVENTION FOR REVISING THE PHARMACOPŒIA OF THE
UNITED STATES.

The Medical Convention for revising the Pharmacopœia, which met at Washington in May, 1850, provided for assem-

bling a Convention for the purpose, in the year 1860, by the following resolutions :

"1. The President of the Convention shall, on the first day of May, 1859, issue a notice, requesting the several incorporated State Medical Societies, the incorporated State Medical Colleges, the incorporated Colleges of Physicians and Surgeons, and the incorporated Colleges of Pharmacy, throughout the United States, to elect a number of delegates, not exceeding three, to attend a general Convention, to be held at Washington on the first Wednesday in May, 1860.

"2. The several incorporated bodies, thus addressed, shall also be requested by the President to submit the Pharmacopœia to a careful revision, and to transmit the result of their labors, through their delegates, or through any other channel, to the next Convention.

"3. The several medical and pharmaceutical bodies shall be further requested to transmit to the President of the Convention, the names and residences of their respective delegates, as soon as they shall have been appointed, a list of whom shall be published, under his authority, for the information of the medical public, in the newspapers and medical journals, in the month of March, 1860."

In accordance with the above resolutions, the undersigned hereby requests the several bodies mentioned to appoint delegates, not exceeding three in number, to represent them in a Convention, for revising the Pharmacopœia of the United States, to meet at Washington on the first Wednesday in May, 1860 ; and would also call the attention of these bodies to the second and third resolutions, and request compliance with the suggestions therein contained.

GEO. B. WOOD,

President of the Convention of 1850.

PHILADELPHIA, May 1st, 1859.